

Appendix A

Air Emissions Calculations

Table A1
Maximum Daily Construction Emissions
Loomis-SPMUD Sewer Diversion Pipeline Project

Maximum Daily Construction Emissions in 2018 (lbs/day)										
Emission Source	NO _x	CO	ROG	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
Onsite										
Mobile Equipment Engine Exhaust	12	6.1	1.08	0.024	0.61	0.59	2472	0.10	0.020	2480
Fugitive Dust from Mobile Equipment	-	-	-	-	4.08	0.73	-	-	-	-
Subtotal Onsite in 2018:	12	6.1	1.08	0.024	4.7	1.32	2,472	0.10	0.020	2,480
Offsite										
Worker Travel	0.26	2.0	0.078	0.0054	0.072	0.030	540	0.018	0.0044	542
Fugitive Dust from Worker Travel					4.8	1.17				
Construction Materials Deliveries	0.67	0.052	0.010	0.0016	0.015	0.0089	167	0.00060	0.0014	167
Fugitive Dust from Materials Delivery Trucks					0.92	0.23				
Subtotal Offsite in 2018:	0.93	2.07	0.09	0.0070	5.8	1.43	707	0.019	0.0057	709
Total Daily Construction Emissions in 2018 (rounded)	12.9	8.2	1.2	0.031	10.5	2.8	3,178	0.12	0.026	3,189

Table A2
2018 Construction Onsite Equipment Hours, Emission Factors, and Emissions
Loomis/SPMUD Sewer Pipeline Project

Equipment	HP	Load Factor (%)	Off-Road or On-Road?	Tier	BSFC ⁽²⁾ (lb/hp-hr)	Annual Use (hrs/yr)	Daily Use (hrs/day)	On-Site Average Speed ⁽⁹⁾ (mph)	Daily Distance Traveled (mi)	Annual Distance Traveled (mi)	ARB Off-Road or EPA Nonroad ⁽³⁾ Emission Factors (g/bhp-hr)										Onroad Emission Factors (lbs/VM ⁽¹⁰⁾)										Daily Offroad Equipment Emissions (lbs/day)										Annual Offroad Equipment Emissions (tpy)										Weight (tons)	Notes	
											NO _x ⁽²⁾	CO ⁽²⁾	VOC ⁽²⁾	SO _x ⁽⁶⁾	PM ₁₀ ⁽²⁾	PM _{2.5} ⁽⁶⁾	CO ₂ ⁽⁷⁾	CH ₄ ^(8,9)	N ₂ O ^(8,10)	CO _{2e} ^(11,12)	NO _x	CO	ROG	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄ ^(8,9)	N ₂ O ^(8,10)	CO _{2e} ^(11,12)	NO _x	CO	VOC	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄ ^(8,9)	N ₂ O ^(8,10)	CO _{2e} ^(11,12)													
Pickup trucks, three	300 (8)		On	-	-	173.3	2	5	10.0	887	-	-	-	-	-	-	-	-	-	-	7.81E-04	6.85E-03	6.31E-03	3.72E-05	2.35E-05	2.16E-05	3.71E+00	0.000189	0.000030	3.73	7.81E-03	6.85E-02	6.31E-02	3.72E-04	2.35E-04	2.16E-04	3.71E+01	0.0015 (18.19)	0.00030 (18.20)	37 (21.22)	3.38E-04	2.97E-03	2.73E-03	1.81E-05	1.02E-05	9.37E-06	1.61E+00	0.00007	0.000013	1.81			
Haul/Delivery trucks	400 (1)		On	-	-	21.7 (16)	0.5	5	2.5	108	-	-	-	-	-	-	-	-	-	-	5.09E-02	1.01E-02	3.69E-03	6.95E-05	2.92E-04	2.80E-04	7.28E+00	0.07779	0.000059	9.24	1.27E-01	2.53E-02	9.23E-03	1.74E-04	7.30E-04	6.99E-04	1.82E+01	0.0007 (18.19)	0.00015 (18.20)	18 (21.22)	2.76E-03	5.48E-04	2.00E-04	3.76E-06	1.58E-05	1.51E-05	3.94E-01	0.00002	0.000003	0.40			
Water truck	400 (1)	0.38 (1)	On	-	-	693.3	8	5	40.0	3467	-	-	-	-	-	-	-	-	-	-	2.40E-02	5.63E-03	3.21E-03	4.72E-05	4.32E-04	4.13E-04	4.95E+00	0.00015	0.000040	4.97	9.59E-01	2.25E-01	1.28E-01	1.89E-03	1.73E-02	1.65E-02	1.98E+02	0.0080 (18.19)	0.0016 (18.20)	199 (21.22)	4.16E-02	9.77E-03	5.57E-03	8.19E-05	7.48E-04	7.16E-04	6.58E+00	0.00035	0.00007	8.6		(15)	
Excavator	163 (1)	0.38 (1)	Off	3	0.367	347 (16)	8	-	-	-	2.5	0.8667	0.1836	0.0050	0.22	0.21	531	0.022	0.0043	533	-	-	-	-	-	-	-	-	-	-	2.73E+00	9.47E-01	2.01E-01	5.46E-03	2.40E-01	2.33E-01	5.80E+02	0.024 (18.19)	0.0047 (18.20)	582 (21.22)	5.92E-02	2.05E-02	4.35E-03	1.18E-04	5.21E-03	5.05E-03	1.26E+01	0.0005	0.00010	12.6	#####		
Boring machine	206 (1)	0.50 (1)	Off	3	0.367	347 (16)	8	-	-	-	2.15 (1)	1.073 (1)	0.1545 (1)	0.0048 (1)	0.0608 (1)	0.056 (1)	484.5605 (1)	0.1509 (1)	0.0039	490	-	-	-	-	-	-	-	-	-	-	3.91E+00	1.95E+00	2.81E-01	8.72E-03	1.10E-01	1.02E-01	8.80E+02	0.037 (18.19)	0.00714 (18.20)	883 (21.22)	8.48E-02	4.22E-02	6.08E-03	1.89E-04	2.39E-03	2.20E-03	1.91E+01	0.00077	0.000156	19.14			
Backhoe	98 (1)	0.37 (1)	Off	3B	0.367	173.3 (16)	4	-	-	-	3.0	2.3655	0.1836	0.0050	0.20	0.19	531	0.022	0.0043	533	-	-	-	-	-	-	-	-	-	-	9.59E-01	7.56E-01	5.87E-02	1.60E-03	6.40E-02	6.20E-02	1.70E+02	0.0069 (18.19)	0.0014 (18.20)	170 (21.22)	2.08E-02	1.64E-02	1.27E-03	3.46E-05	1.39E-03	1.34E-03	3.68E+00	0.00015	0.00003	3.7	1.2		
Compactor	81 (1)	0.38 (1)	Off	3B	0.367	35	4	1.5	6.0	52	3.0	2.3655	0.1836	0.0050	0.20	0.19	531	0.022	0.0043	533	-	-	-	-	-	-	-	-	-	-	8.14E-01	6.42E-01	4.98E-02	1.36E-03	5.43E-02	5.27E-02	1.44E+02	0.0059 (18.19)	0.0012 (18.20)	145 (21.22)	3.53E-03	2.78E-03	2.16E-04	5.87E-06	2.35E-04	2.28E-04	6.25E-01	0.00003	0.00001	0.6			
Wheeled Loader	98 (1)	0.37 (1)	Off	3	0.367	346.7 (16)	8	-	-	-	2.45	0.843	0.10	0.0050	0.11	0.11	531	0.022	0.0043	533	-	-	-	-	-	-	-	-	-	-	1.57E+00	5.39E-01	6.40E-02	3.19E-03	7.04E-02	6.82E-02	3.40E+02	0.0138 (18.19)	0.0028 (18.20)	341 (21.22)	3.40E-02	1.17E-02	1.39E-03	6.92E-05	1.52E-03	1.48E-03	7.36E+00	0.00030	0.00006	7.4	14.2		
Welder	46 (1)	0.45 (1)	Off	4A	0.408	173.3 (16)	4	-	-	-	4.607 (1)	5.092 (1)	1.21 (1)	0.007 (1)	0.311 (1)	0.311 (1)	568.299 (1)	0.109 (1)	#####	572 (21.22)	-	-	-	-	-	-	-	-	-	-	-	8.41E-01	9.30E-01	2.21E-01	1.28E-03	5.68E-02	5.68E-02	1.04E+02	0.004 (18.19)	0.0008 (18.20)	104 (21.22)	1.82E-02	2.01E-02	4.79E-03	2.77E-05	1.23E-03	1.23E-03	2.25E+00	0.00009	0.00002	2.26		
Total						2,310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.9	6.1	1.98	0.024	0.61	0.59	2,472	6.10	0.020	2,480	0.27	0.13	0.027	0.00055	0.013	0.012	56	0.0023	0.00046	66			

1) CalEEMod (Version 2013.2.2) Appendix D Tables 3.3 and 33.4 default values.
2) EPA, Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression-Ignition, ReportNR-009d, EPA-420-R-10-018, Table A4, July 2010
3) EMFAC2014 for part of Placer County in the Sacramento Valley Air Basin in 2017 at an annual average temperature of 60 F and relative humidity of 50%.
4) Estimated
5) Calculated from BSFC assuming 15 ppmw sulfur in Diesel fuel.
6) PM_{2.5}/PM₁₀ ratio (Footnote 2) = 0.97
7) Density of Distillate Fuel No. 2 (metric tons fuel/bbl fuel) = 0.1346 (CFR Part 98, Subpart MM, Table MM-1)
CO₂ emission factor for Distillate Fuel No. 2 (metric tons CO₂/bbl fuel) = 0.4296 (CFR Part 98, Subpart MM, Table MM-1)
CO₂ emission factor for gasoline (metric tons CO₂/bbl fuel) = 0.3696 (CFR Part 98, Subpart MM, Table MM-1)
8) Diesel fuel CO₂ emission factor (kg CO₂/MMBtu) = 73.96 (EPA 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)
9) Diesel fuel CH₄ emission factor (kg CH₄/MMBtu) = 0.003 (EPA 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
10) Diesel fuel N₂O emission factor (kg N₂O/MMBtu) = 0.0006 (EPA 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)
11) CH₄ Global Warming Potential (-) = 25 (EPA 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
12) N₂O Global Warming Potential (-) = 298 (EPA 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)
13) Caterpillar, Cat Resource Center , http://www.caterpillar.com/construction-excavators.asp?utm_campaign=catbc1630
14)
15) Assumed same as off-highway trucks in CalEEMod Appendix D Table 3.3.
16) Equipment used for half the period of Phase 3 because other activities occupy the other half (e.g., mobilization/demobilization/maintenance/weather delay).

Table A3
Construction Fugitive Dust Emission Summary
Loomis-SPMUD Sewer Diversion Pipeline Project

Daily Construction Fugitive Dust Emissions

PM _{2.5} (lb/day)			
		Daily Fugitive Dust Emission by Construction Phase	
Equipment	Project Year:	2017	2018
Pickup trucks, three		0.031	0.031
Haul/Delivery trucks		0.020	0.020
Water truck		0.27	0.27
Dump truck		0.16	0
Excavator		0.11	0.11
Paving(2017)/Boring(2018) Machine		0.014	0.11
Backhoe		0.053	0.053
Compactor		0.073	0.036
Wheeled Loader		0.11	0.11
PM _{2.5} Subtotal (lbs/day) =		0.83	0.73

PM ₁₀ (lb/day)			
		Daily Fugitive Dust Emission by Construction Phase	
Equipment	Project Year:	2017	2018
Pickup trucks, three		0.31	0.31
Haul/Delivery trucks		0.20	0.20
Water truck		2.65	2.65
Dump truck		1.59	0
Excavator		0.19	0.19
Paving(2017)/Boring(2018) Machine		0.048	0.19
Backhoe		0.10	0.10
Compactor		0.48	0.24
Wheeled Loader		0.19	0.19
PM ₁₀ Subtotal (lbs/day) =		5.77	4.08

PM _{2.5} (lb/day)			
		Daily Fugitive Dust Emission by Construction Phase	
Source	Project Year:	2017	2018
Windblown Dust (active construction)		0.00022	0.00022
PM _{2.5} Subtotal (lbs/day) =		0.00022	0.00022
PM _{2.5} Total (lbs/day) =		0.83	0.73

PM ₁₀ (lb/day)			
		Daily Fugitive Dust Emission by Construction Phase	
Source	Project Year:	2017	2018
Windblown Dust (active construction)		0.00056	0.00056
PM ₁₀ Subtotal (lbs/day) =		0.00056	0.00056
PM ₁₀ Total (lbs/day) =		5.8	4.1

Annual Construction Fugitive Dust Emissions

PM _{2.5} (tpy)			
		Annual Fugitive Dust Emission by Construction Phase	
Equipment	Project Year:	2017	2018
Pickup trucks, three		0.0037	0.0014
Haul/Delivery trucks		0.0024	0.00043
Water truck		0.032	0.011
Dump truck		0.019	0
Excavator		0.013	0.0023
Paving(2017)/Boring(2018) Machine		0.00016	0.0023
Backhoe		0.0063	0.0012
Compactor		0.00058	0.00010
Wheeled Loader		0.013	0.0023
PM _{2.5} Subtotal (tpy) =		0.09	0.021

PM ₁₀ (tpy)			
		Annual Fugitive Dust Emission by Construction Phase	
Equipment	Project Year:	2017	2018
Pickup trucks, three		0.0375	0.0014
Haul/Delivery trucks		0.0237	0.00043
Water truck		0.316	0.011
Dump truck		0.189	0
Excavator		0.023	0.0023
Paving(2017)/Boring(2018) Machine		0.00162	0.0023
Backhoe		0.0115	0.0012
Compactor		0.00577	0.00010
Wheeled Loader		0.023	0.0023
PM ₁₀ Subtotal (tpy) =		0.63	0.021

PM _{2.5} (tpy)			
		Annual Fugitive Dust Emission by Construction Phase	
Source	Project Year:	2017	2018
Windblown Dust (active construction)		0.000027	0.000010
PM _{2.5} Subtotal (tpy) =		0.000027	0.000010
PM _{2.5} Total (tpy) =		0.089	0.021

PM ₁₀ (tpy)			
		Annual Fugitive Dust Emission by Construction Phase	
Source	Project Year:	2017	2018
Windblown Dust (active construction)		0.000067	0.000024
PM ₁₀ Subtotal (tpy) =		0.000067	0.000024
PM ₁₀ Total (tpy) =		0.63	0.021

Table A4
Construction Offsite On-Road Vehicle Emissions
Loomis-SPMUD Sewer Diversion Pipeline Project

Construction Offsite On-Road Vehicle Emissions in 2018
Materials DeliveryTruck Emissions in 2018

Materials Delivery Truck Peak Daily Emissions in 2018																					
Maximum Number of Deliveries per Day	Average Round-Trip Haul Distance (miles)	Vehicle-Miles Traveled per Day	Emission Factors (lbs/VMT)									Daily Emissions (lbs/day)									
			NOx	CO	VOC	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄ ^(2,3)	N ₂ O ^(2,4)	NOx	CO	VOC	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e ^(5,6)
1	46	46	0.0121	0.00077	0.00015	0.000031	0.00033	0.00019	3.29	0.0000088	0.000027	0.67	0.052	0.010	0.0016	0.015	0.0089	167	0.00060	0.0014	167
Paved-Road Fugitive Dust								0.020	0.0049								0.92	0.23			

Materials Delivery Truck Annual Emissions in 2018																					
Number of Deliveries per Year	Average Round-Trip Haul Distance (miles)	Annual Vehicle-Miles Traveled	Emission Factors (lbs/VMT)									Annual Emissions (tons/yr)									
			NOx	CO	VOC	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	NOx	CO	VOC	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e ^(5,6)
18	46	828	0.0121	0.00077	0.00015	0.000031	0.00033	0.00019	3.29	0.0000088	0.000027	0.0061	0.00047	0.00010	0.000014	0.00014	0.000080	1.50	0.0000054	0.000012	1.50
Paved-Road Fugitive Dust								0.019	0.0046								0.0078	0.0019			

2) Diesel fuel CO₂ emission factor (kg CO₂/MMBtu) = 73.96 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-1 to Subpart C, p. 71951, November 29, 2013.)

3) Diesel fuel CH₄ emission factor (kg CH₄/MMBtu) = 0.0030 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table C-2 to Subpart C, p. 71952, November 29, 2013.)

4) Diesel fuel N₂O emission factor (kg N₂O/MMBtu) = 0.0006 Ibid

5) CH₄ Global Warming Potential (-) = 25 (EPA. 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantitally Revised Data Elements; Final Rule, Federal Register, Volume 78, Number 230, Table 2, p. 71909, November 29, 2013.)

6) N₂O Global Warming Potential (-) = 298 Ibid

Table A4
Construction Offsite On-Road Vehicle Emissions
Loomis-SPMUD Sewer Diversion Pipeline Project

Construction Worker Vehicle Emissions in 2018

Worker Travel Daily Emissions in 2018 (Maximum)																											
Maximum Number of Workers per Day	Average Number of Worker Round Trips Per Day	Total Number of Worker Round Trips per Day	Average Worker Round Trip Distance (Miles)	Carpool Factor (No. People per Vehicle)	Worker Vehicle Distance Traveled per Day (miles)	Emission Factors (lbs/vmt)									Daily Emissions (lbs/day)												
						NOx	CO	VOC	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄ ^(2,3)	N ₂ O ^(2,4)	NOx	CO	VOC	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e ^(5,6)			
15	1	15	46	1	690	0.00036	0.0028	0.000094	0.0000078	0.00010	0.000044	0.78	0.000025	0.0000063	0.26	2.0	0.078	0.0054	0.0718	0.0305	539.9	0.0179	0.00438	542			
Paved-Road Fugitive Dust											0.0069	0.0017										4.75	1.17				

Worker Travel Annual Emissions in 2018																												
Annual Average (Weighted) Number of Workers Per Day	Average Number of Worker Round Trips Per Day	Total Number of Worker Round Trips per Day	Average Worker Round Trip Distance (Miles)	Carpool Factor (No. People per Vehicle)	Number of Construction Days	Vehicle Miles Traveled Per Year	Emission Factors (lbs/vmt)									Annual Emissions (tons/yr)												
							NOx	CO	VOC	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	NOx	CO	VOC	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e ^(5,6)			
							15.0	1	15.0	46	1	87	59,800	0.00036	0.0028	0.000094	0.0000078	0.00010	0.000044	0.78	0.000025	0.0000063	0.011	0.087	0.010	0.00023	0.0031	0.0013
Paved-Road Fugitive Dust												0.0065	0.0016											0.19	0.047			

Table A5
Assumptions for Construction Emission Analysis
Loomis-SPMUD Sewer Diversion Pipeline Project

Assumption	Units	Value	Reference
Number of construction days per week	days/week	5	Project Description, page 14
Construction period, CY 2017	days/year	238	48 weeks for Phases 1 and 2
Construction period, CY 2018	days/year	87	17 weeks for Phase 3
Construction schedule, daily	hrs/day	8	Estimated
Number of construction workers commuting to job site	number	15	Estimated
Number of daily round-trips by each construction worker	trips/day	1	Assumes no travel home for lunch
Construction worker average one-way commute distance	miles	23	Distance to center of Sacramento
Number of construction materials deliveries in CY 2017	number	48	Assumes weekly
Number of construction materials deliveries in CY 2018	number	17	Assumes weekly
Construction materials average one-way delivery distance	miles	23	Distance to center of Sacramento
Number of paving days, 2017	days/year	24	Assumed to be 10% construction days.
Number of paving days, 2018	days/year	9	Assumed to be 10% construction days.
Total project area disturbed	acres	6.7	Project Description, page 1, March 15
Area disturbed, 2017	acres	4.9	Assumed proportional to number of construction days
Area disturbed, 2018	acres	1.8	Assumed proportional to number of construction days
Onsite speed of water and dump trucks	mph	5	Estimated
Maximum water capacity of water trucks	gallons	4,000	Standard capacity

Note: Values are conservative maxima to assure no underestimation of construction emissions.

Table A6
Construction Equipment Speed
Loomis-SPMUD Sewer Diversion Project

Construction Equipment Speeds

Equipment	Average Vehicle Speed ¹ (mph)
PICKUP 3/4 TON 4X4 CREW CAB	5
TRUCK DUMP TANDEM AXLE 13-15 CY D	5
TRUCK WATER 3600-4000GAL F-R SPRAY BARS / MONITOR 2AXLE D	5
EXCAVATOR	0.5
BACKHOE	0.5
COMPACTOR VIB SMOOTH 66" 7.7T 75HP D	1.5
WHEELED LOADER	2.0
PAVING MACHINE	0.5

1) Estimated

Appendix B

Biological Features and Preferred Alignment Map and Biological Resources Reports

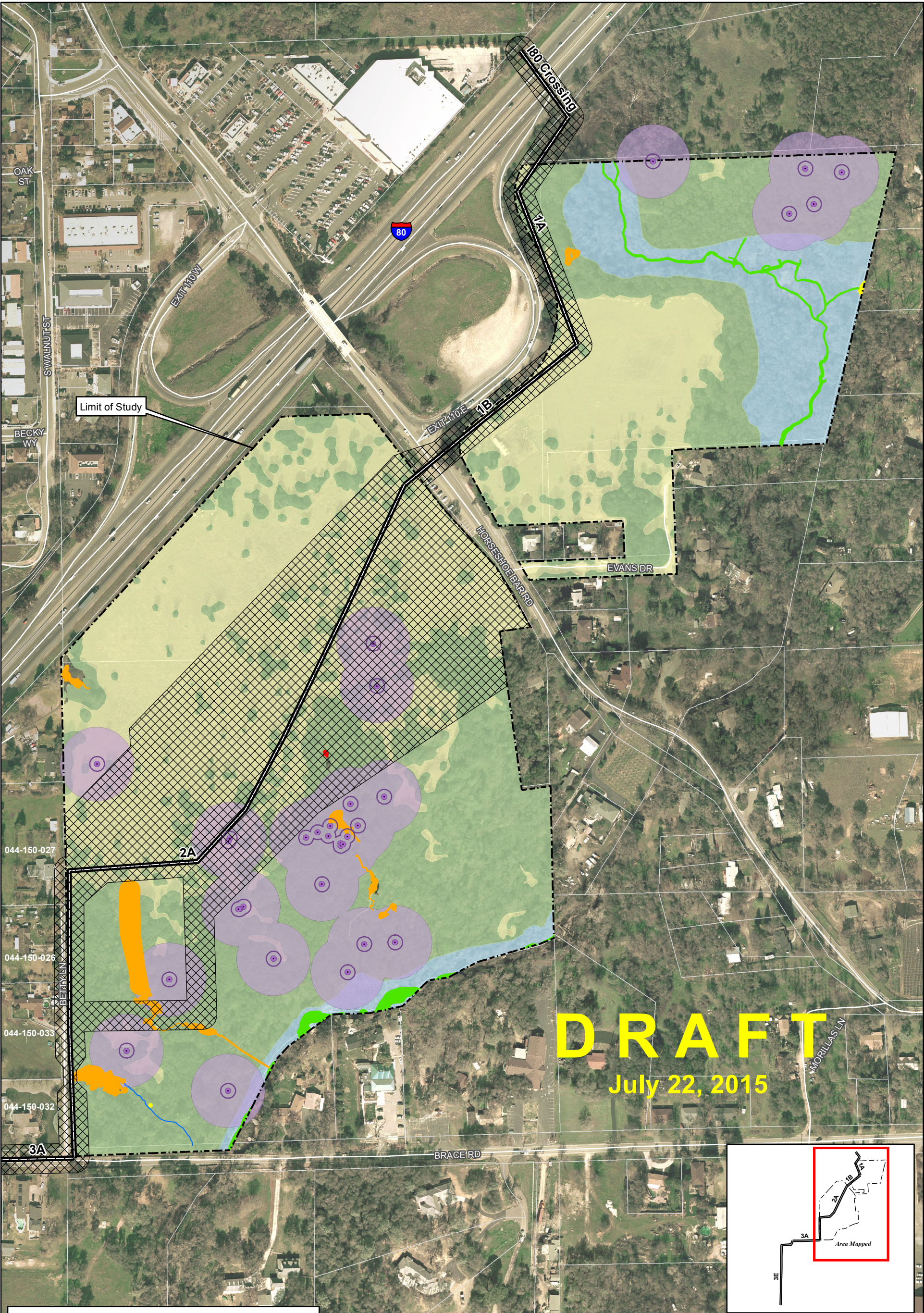
Biological Features and Preferred Alignment Map

2014 Biological Resources Assessment

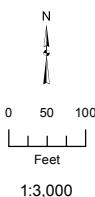
2014 Delineation of Waters of the United States

2014 Arborist Report

Portions of the Biological Resources Assessment (January 21, 2014), Arborist Report (January 21, 2014), and Delineation of Waters of the United States (March 27, 2014) are included in this appendix. The complete reports are available for review on the website (http://www.loomis.ca.gov/loomis_projects.html) and at the Town office: 3665 Taylor Road, Loomis, CA 95650.



Intermittent Drainage	Preferred Project Alignment (Alternative 1)
Perennial Drainage	Project Corridor
Pond	Elderberries
Seasonal Wetland	20-ft Buffer of Elderberry
Seep	100-ft Buffer of Elderberry (USFWS complete avoidance)
Annual Grassland	
Oak Woodland	
Riparian Woodland	



SPMUD LOOMIS DIVERSION LINE ROUTE STUDY

Biological Features and Preferred Alignment

Sources: Town of Loomis GIS; Placer County GIS; Foothill Associates; Water Works Engineers. Map date: July 22, 2015.

Biological Resources Assessment

6201 Horseshoe Bar Road
Placer County, California

Prepared for: Tulip Asset LLC

January 21, 2014

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1.0 EXECUTIVE SUMMARY

The purpose of this document is to document the results of a biological resource assessment on the project site located at 6201 Horseshoe Bar Road in the Town of Loomis, California. A biological assessment was previously prepared for this property in 2007 by Foothill Associates. The project site is located immediately south of Interstate 80 and is bisected by Horseshoe Bar Road. This report summarizes the general biological resources on the site, assesses the suitability of the site to support special-status species and sensitive habitat types, and provides recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring on the site. Foothill Associates' biologists conducted biological resources site assessment surveys on July 10 and July 11, 2006, November 15, 2007, and on November 19 and 20, 2013.

The project site consists of ±63 acres of land that currently contains primarily annual grassland, oak woodland, and mixed riparian forest. Land uses and vegetation communities surrounding the site include Interstate 80 to the north, single-family residential areas and annual grassland and oak woodland to the east, single-family residential areas and Brace Road to the south, and single-family residential and annual grassland to the west. Known or potential biological constraints on the site include the following:

- Potential habitat for special-status plant species (including big-scale balsamroot, Brandegee's clarkia, dubious pea, and Sanford's arrowhead);
- Potential habitat for valley elderberry longhorn beetle;
- Potential special-status fish habitat;
- Potential habitat for western pond turtle;
- Potential habitat for spadefoot;
- Potential nesting habitat and foraging habitat for raptors (including Cooper's hawk, osprey, white-tailed kite, and Swainson's hawk) and other species protected by the MBTA (including purple martin, song sparrow, and grasshopper sparrow);
- Potential western burrowing owl habitat;
- Potential special-status bat habitat;
- Sensitive habitats (wetlands including seasonal wetlands, mixed riparian forest, perennial drainage, and oak woodland); and
- Protected trees.

2.0 INTRODUCTION

This report summarizes the findings of a biological resources assessment completed for the ±63-acre 6201 Horseshoe Bar Road site, located within the Town of Loomis, California. This document addresses the on-site physical features as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring on the site. Furthermore, the suitability of habitats to support special-status species and sensitive habitats are analyzed and recommendations are provided for any regulatory permitting or further analysis that may be required prior to development activities occurring on the site.

A wetland delineation was conducted on the site. A detailed analysis of wetlands and other waters of the U.S. is provided under separate cover in the wetland delineation report for the site. The acreages of wetland features and general characteristics of those features are summarized in this biological resources assessment.

A tree survey was conducted on the site documenting all trees protected by the Town of Loomis Tree Ordinance. The results of this survey are documented in an Arborist Report under separate cover.

3.0 REGULATORY FRAMEWORK

The following describes federal, State, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process. The CEQA significance criteria are also included in this section.

3.1 Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harassment is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

FESA and Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. The U.S. Army Corps of Engineers (Corps) must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) when threatened or endangered species under their jurisdiction may be affected by a proposed project. In the context of the proposed project, FESA would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

3.2 Migratory Bird Treaty Act (MBTA)

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal MBTA prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

3.3 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), formerly California Department of Fish and Game (CDFG) when preparing CEQA documents. The purpose is to ensure that the lead agency's actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the state's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

3.4 CDFW Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFW and lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened.

3.5 California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low population numbers, limited distribution, or is otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

3.6 Jurisdictional Waters of the United States

3.6.1 Federal Jurisdiction

The Corps regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. “Discharges of fill material” are defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

3.6.2 CDFW Jurisdiction

CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code. Under Section 1602, a private party must notify CDFW if a proposed project will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds...except when the department has been notified pursuant to Section 1601.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

3.7 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would result in any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. This is necessary because although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

3.8 Town of Loomis General Plan

The Town of Loomis provides guidance on development and design through its General Plan. The following excerpts summarize applicable policies from Section VII - Conservation of Resources:

2. Biotic resources evaluation. *Prior to approval of discretionary development permits involving parcels near significant ecological resource areas, the Town shall require, as part of the environmental review process, a biotic resources evaluation by a qualified biologist. The biologist shall follow accepted protocols for surveys (if needed) and subsequent procedures that may be necessary to complete the evaluation. “Significant Ecological Areas” shall include, but not be limited to:*

- *Wetland areas;*
- *Stream environment zones;*
- *Suitable habitat for rare, threatened or endangered species, and species of concern;*
- *Large areas of non-fragmented habitat, including oak woodlands and riparian habitat;*
- *Potential wildlife movement corridors; and*
- *Important spawning areas for anadromous fish.*

5. Native tree protection. *Individual heritage trees and significant stands of heritage trees shall be preserved. Healthy heritage trees shall be removed or significantly trimmed only when necessary because of safety concerns, conflicts with utility lines and other infrastructure, the need for thinning to maintain a healthy stand of trees, or where there is no feasible alternative to removal. Proposed development shall be designed, constructed, and maintained to preserve individual heritage trees and significant stands of heritage trees, and provide for the protection of root zones and the continuing health of the trees. When trees are removed, they shall be replaced in sufficient numbers to maintain the volume of the Town’s overall tree canopy over a 20-year period. Tree removal within stream corridors is also subject to the above policy on stream corridor protection.*

6. Stream corridor protection. *The streams of Loomis are among the most significant and valuable of the Town’s natural resources. Development adjacent to streams shall be designed, constructed, and maintained to avoid adverse impacts on riparian vegetation, stream bank stability, and stream water quality to the maximum extent feasible. These policies shall apply to all watercourses shown as blue lines on the most recent United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps applicable to the Town. See also the policies for wetland protection below.*

- a. *Proposed structures and grading shall be set back the greater of: 100 feet from the outermost extent of riparian vegetation as defined in the Zoning Ordinance, or outside of the 100-year flood plain. Lesser setbacks may be approved where site-specific studies of biology and hydrology, prepared by qualified professionals*

approved by the Town, demonstrate that a lesser setback will provide equal protection for stream resources. Development shall be set back from ephemeral or intermittent streams a minimum of 50 feet, to the extent of riparian vegetation, or to the 100-year floodplain, whichever is greatest.

- b. Land uses and development within the setback areas required by this policy shall be limited to: the grazing of livestock at half or less of the animal densities allowed by the Zoning Ordinance; open wire fencing to confine livestock; bridges; public utilities and infrastructure; and other uses allowed by the applicable zoning district as permitted or conditional uses, with conditional use permit approval.*
- c. The following activities are prohibited within stream corridor setbacks: filling or dumping; the disposal of agricultural wastes; channelization or dams; the use of pesticides that may be carried into stream waters; grading, or the removal of natural vegetation within the required setback area, except with grading permit approval. This is not intended to prevent the reasonable maintenance of natural vegetation to improve plant health and habitat value.*
- d. The Town shall require that development projects proposing to encroach into a creek corridor or creek/wetland setback to do one or more of the following, in descending order of desirability:*
 - a. Avoid the disturbance of riparian vegetation;*
 - b. Replace riparian vegetation (on-site, in-kind);*
 - c. Restore another section of creek (in-kind); and/or*
 - d. Pay a mitigation fee for restoration elsewhere (e.g., wetland mitigation banking program).*
- e. The Town shall require that newly-created parcels include adequate space outside of wetland and riparian setback areas to ensure that property owners will not place improvements within areas that require protection.*
- f. Proposed development shall include surface water drainage facilities that are designed, constructed, and maintained to ensure that the increased runoff caused by development does not contribute to the erosion of stream banks, or introduce pollutants into watercourses.*

- g. *The Town shall encourage the use of natural stormwater drainage systems to preserve and enhance existing natural features. The Town shall promote flood control efforts that maintain natural conditions within riparian areas.*
- h. *Where creek or wetland protection is required or proposed, the Town shall require public and private development to:*
 - *Preserve creek corridors and setbacks through easements or dedications. Parcel lines or easements shall be located to optimize resource protection;*
 - *Designate easement or dedication areas as open space;*
 - *Protect creek corridors and their habitat value by:*
 - 1) providing adequate setbacks; 2) maintaining creek corridors in their natural state; 3) employing restoration techniques, where necessary and appropriate; 4) using riparian vegetation within creek corridors; 5) prohibit the planting of invasive, non-native plants within creek setbacks; and 6) avoiding tree removal within creek corridors.*
 - *Use techniques that ensure development will not cause or worsen natural hazards near creeks, and will include erosion and sediment control practices such as: 1) turbidity screens (to minimize erosion and siltation); and 2) temporary vegetation sufficient to stabilize disturbed areas.*

Wetlands. *The following policies apply to properties with wetland areas. Additional applicable policies may be found under “stream corridor protection,” above.*

- a. *The environmental review of development on sites with wetlands shall include a wetlands delineation, and the formulation of appropriate mitigation measures. The Town shall support the “no net loss” policy for wetland areas regulated by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.*
- b. *The Town shall require new development to mitigate wetland loss in both regulated and non-regulated wetlands to achieve “no net loss” through any combination of the following, in descending order of desirability:*
 - (1) Avoidance of riparian habitat;*

- (2) Where avoidance is not feasible, minimization of impacts on the resource;*
- (3) Compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas, that are encouraged to be located within the Town; or*
- (4) Replacement of a degraded or destroyed wetland at a ratio of from 1:1 to 4:1, based on the biotic value of the wetland, as determined by the required environmental analysis. The review authority may reduce the replacement ratio as an incentive, where replacement wetlands are proposed to be located within or in close proximity to the Town.*

The Town shall cooperate with regulating agencies to ensure that concerns are adequately addressed.

- c. The Town will require project-by-project review of sites where vernal pools exist, to assess threatened and endangered pool plant species and identify appropriate mitigation measures.*
- d. The Town will require the preservation of native riparian and wetland areas as open space to the maximum extent feasible, using fee title or conservation easement acquisition, land conservancy participation, and/or other measures as appropriate.*

3.9 Town of Loomis Tree Ordinance

The Town of Loomis ordinance for the Preservation of Heritage Trees regulates the removal of protected trees. Heritage trees include all native oak trees with a trunk diameter of at least six inches and other tree species with a trunk diameter of 19 inches at 54 inches above the ground. Eucalyptus (*Eucalyptus* sp.), alder (*Alnus rhombifolia*), cottonwood (*Populus fremontii*), pine (*Pinus* spp.), fruit trees, and willow (*Salix* spp.) trees of any size are exempted from the ordinance. A tree permit is required prior to removal of a protected tree or encroachment with ground disturbing activity into more than 20% of its root zone. Replacement planting may be required as a condition of the permit. Generally, trees removed should be replaced with trees of the same species. The number of replacement plantings depends on the trunk diameter of the tree removed. Although on-site replacement planting is preferred, payment of an in-lieu fee is an option if on-site replanting is not feasible.

4.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the **References** section of this document. Site-specific information was reviewed including the following:

- California Department of Fish and Wildlife (CDFW). 2013. *California Natural Diversity Data Base* (CNDDB). Sacramento, CA;
- Natural Resource Conservation Service (NRCS). 1980. *Soil Survey of Placer County, Western Part, California*. U.S. Department of Agriculture;
- U.S. Fish and Wildlife Service. 2013. *Federal Endangered and Threatened Species that may be affected by Projects in the Rocklin 7.5 minute series quadrangle and Placer County*. Sacramento, CA; and
- U.S. Geological Survey (USGS). 1967 (Photorevised 1981). "Rocklin, California. 7.5-minute series topographic quadrangle." United States Department of Interior.

Foothill Associates' biologists conducted field surveys on the site on July 10 and July 11, 2006 and on November 19 and 20, 2013. The site was systematically surveyed on foot and using existing roads within the site to ensure total search coverage, with special attention given to identifying those portions of the site with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed and characterized biological communities occurring on the site.

As part of this assessment, Foothill Associates' biologists prepared a wetland delineation utilizing the Corps 1987 three-parameter methodology to delineate potentially jurisdictional waters of the U.S. This methodology requires the collection of hydric soils, hydrophytic vegetation, and hydrologic data at several locations to establish the jurisdictional edge of waters of the U.S. The complete results of this delineation are provided under separate cover. The acreages and types of wetland features delineated on the site are summarized in this biological resource assessment.

Foothill Associates' ISA-Certified Arborists also surveyed all protected trees on the project site. The species, trunk diameter, dripline radius, health, and structure of all protected trees were recorded and each tree was tagged with a pre-printed aluminum tag. The complete results of this survey are provided under separate cover. The results of the survey are summarized in this report.

5.0 RESULTS

5.1 Site Location and Description

The project site consists of ±63 acres of land that is a mixture of annual grassland, oak woodland, and mixed riparian forest. Within these communities are various wetland features. Land uses and vegetation communities surrounding the site include Interstate 80 to the north, single-family residential areas and annual grassland and oak woodland to the east, single-family residential areas and Brace Road to the south, and single-family residential and annual grassland to the west. The site is located within Township 11 North, Range 7 East, Section 10 of the USGS 7.5-minute series *Rocklin, California* quadrangle (**Figure 1**).

5.2 Physical Features

5.2.1 Topography and Drainage

Topography on the site varies from level to slightly sloped on the margins of Secret Ravine in the southern and eastern portions of the site. Elevations on the site range from approximately 340 to 375 feet above mean sea level (MSL). Surface runoff tends to flow into Secret Ravine which forms the southern and eastern boundary of the site. Seasonal wetlands also capture some surface flow on the site.

5.2.2 Soils

The Natural Resources Conservation Service (NRCS) has mapped three soil units on the site (**Figure 2**). The soil units that occur on the site include the following: **Andregg coarse sandy loam, 2 to 9 percent slopes**; **Xerorthents, cut and fill**; and **Xerorthents, Placer Areas**. General characteristics associated with these soils types are described below.

- **Andregg coarse sandy loam, 2 to 9 percent slopes:** This soil type is found on low hills in the Loomis Basin between 200 and 1,000 feet above MSL. The soil is moderately deep and well-drained. Natural vegetation includes annual grasses, herbaceous species, blue and live oak, and scattered pines. Permeability in this soil is moderately rapid and surface runoff is medium. The hydric soils list for Placer County identifies one unnamed hydric inclusion located within drainageways of this soil type.
- **Xerorthents, cut and fill:** This soil unit consists of mixed soil material that no longer contains discernable horizons. Cut and fill areas are typically well-drained and surface runoff is very rapid. Permeability and water capacity are variable. These areas are typically used for highways and urban development. The hydric soils list for Placer County does not identify hydric components or inclusions occurring within this soil type.

- **Xerorthents, Placer Areas:** This soil unit consists of stony, cobbly, and gravelly materials adjacent to streams that have been placer mined. Natural vegetation typically includes annual grasses, oaks, willows, alders, and cottonwoods. Permeability, runoff, and drainage are variable. The hydric soils list for Placer County identifies one unnamed hydric inclusion located within drainageways of this soil type.

5.3 Biological Communities

Three major biological communities occur on the 6201 Horseshoe Bar Road site including annual grassland, oak woodland, and mixed riparian forest. Within these communities are various wetland communities. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. Each of the biological communities are described below including associated common plant and wildlife species observed, or that are expected to occur within these communities.

5.3.1 Annual Grassland

Annual grassland is characterized primarily by an assemblage of non-native grasses and forbs. This vegetation community is found in the western half of the property adjacent to Interstate 80. Much of the vegetation in this community is common to the Central Valley. Dominant grass species within this community consist of soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), Italian rye grass (*Festuca perennis*), medusahead (*Elymus caput-medusae*), and little quaking grass (*Briza minor*). Other herbaceous vegetation present were California poppy (*Eschscholzia californica*), clustered dock (*Rumex conglomerates*), rose clover (*Trifolium hirtum*), tarweed (*Centromadia pungens*), star thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), milkvetch (*Astragalus* spp.), bindweed (*Convolvulus arvensis*), elegant brodiaea (*Brodiaea elegans*), and wild mustard (*Hirschfeldia incana*).

Annual grassland habitat supports breeding, foraging, and shelter habitat for several species of wildlife. Species observed in this habitat during the biological assessment included the following: golden-crowned sparrow (*Zonotrichia atricapilla*), western meadowlark (*Sturnella neglecta*), coyote (*Canis latrans*), and black-tailed jackrabbit (*Lepus californicus*).

5.3.2 Oak Woodland

This community covers primarily the southern portion of the site adjacent to Secret Ravine. The overstory of this community is dominated by interior live oaks (*Quercus wislizeni*) with scattered valley oaks (*Quercus lobata*), blue oaks (*Quercus douglasii*), and foothill pines (*Pinus sabiniana*). The understory contains scattered toyon (*Adenostoma fasciculata*), California buckeye (*Aesculus californica*), coyotebrush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), whitethorn ceanothus (*Ceanothus cordulatus*), and poison oak (*Toxicodendron diversilobum*). Several blue elderberry shrubs (*Sambucus mexicana*) were found within the oak woodland as well.

Naturalized fruit trees within the oak woodland habitat included apple (*Malus* spp.), pear (*Pyrus* spp.) and common fig (*Ficus carica*).

Oak woodland habitats support a variety of wildlife species. Species observed in this habitat during the biological assessment include the following: red-tailed hawk (*Buteo jamaicensis*), oak titmouse (*Baeolophus inornatus*), bushtit (*Psaltirparus minimus*), western scrub-jay (*Aphelocoma californica*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria*), northern mockingbird (*Mimus polyglottos*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), turkey vulture (*Cathartes aura*), and mule deer (*Odocoileus hemionus*).

5.3.3 Great Valley Mixed Riparian Forest

This community is associated primarily with the margins of Secret Ravine on the southern and eastern portions of the site. The overstory of this community contains willows (*Salix* sp.), Fremont's cottonwood (*Populus fremontii*), and white alders (*Alnus rhombifolia*). The shrub layer contains Himalayan blackberry (*Rubus armeniacus*) and poison oak.

This vegetation community supports a high diversity of wildlife species. This community is also an important stopover for migrating bird species during the spring and fall months in the Central Valley. Species observed within this habitat type during the biological assessment include the following: spotted towhee (*Pipilo maculatus*), song sparrow (*Melospiza melodia*), green heron (*Butorides virescens*), oak titmouse, and coyote.

5.3.4 Wetlands and Other Waters of the U.S.

Riverine Seasonal Wetland

Approximately **0.53** acre of riverine seasonal wetlands has been delineated within the site. Riverine seasonal wetlands are defined by a hydrologic regime dominated by a unidirectional flow of water. Riverine seasonal wetlands typically occur in topographic folds or swales and represent natural drainages that convey sufficient water to support wetland vegetation. Riverine seasonal wetlands typically convey water during and shortly after storm events. Riverine seasonal wetlands have a moderately defined bed and bank and often exhibit sufficient gradient to convey water off of the site. As in depressional seasonal wetlands, plant species found within riverine seasonal wetlands are typically adapted to a hydrologic regime dominated by saturation rather than inundation.

Depressional Seasonal Wetlands

A total of **0.15** acre of depressional seasonal wetlands have been delineated within the site. Depressional seasonal wetlands are defined by a hydrologic regime that is dominated by saturation, rather than inundation. Depressional seasonal wetlands were identified on the site as inundated depressions within the topography capable of supporting hydrophytic plant species and hydric soils. At the time of the survey, the

depressional seasonal wetlands were inundated and supported plant species that are adapted to withstand periods of saturation or saturated soils conditions.

Perennial Drainage

A total of **0.44** acre of perennial drainage (Secret Ravine) has been delineated within the site. Flows in these systems persist throughout the year. Perennial drainages are features that do not meet the three-parameter wetland criteria for vegetation, hydrology and soils, but do convey water and exhibit an “ordinary high-water mark.” Perennial drainages generally convey unidirectional water flows throughout the entire year. Perennial drainages typically consist of a channel, bed, and bank and are devoid of vegetation due to the scouring effect of flowing water. Perennial drainages are often bordered by wetland vegetation communities of various composition and cover depending on flow rates, duration flows, and soil types.

Pond

A portion of a pond (**0.01** acre) was delineated along the northeastern border. The pond on the site is charged by the perennial drainage that traverses the central portion of the northern half of the site and flow east towards the west side of the pond. Ponds are often a result of the placement of a dam within jurisdictional waters, as is the suspected origin of the feature onsite. Since the supply of water is from a perennial drainage that is likely jurisdictional, the close proximity of the pond to Secret Ravine, and likelihood that the pond flows into Secret Ravine; this feature is expected to be subject to Corps jurisdiction.

5.4 Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, State, or local resource agencies or organizations. Special-status species are defined as:

- Listed or proposed for listing under CESA and/or FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- Listed by CDFW as a Species of Special Concern;
- Listed by CNPS as being rare (a ranking of 1A, 1B, or 2); or
- Any other species that would receive consideration according to the CEQA Guidelines.

Special-status species considered for this analysis are based on queries of the CNDDDB for the Rocklin quadrangle and the surrounding 8 quadrangles, the USFWS Online Species List for the Rocklin quadrangle and the surrounding 8 quadrangles and Placer County, and the CNPS Inventory of Rare and Endangered Plants list for the Rocklin quadrangle and the surrounding 8 quadrangles (online version). **Table 1** includes the common name and scientific name for each species, regulatory status (federal, state, local, CNPS), habitat descriptions, and potential for occurrence on the project site. **Figure 3** depicts the locations of special-status species recorded in the CNDDDB within five miles of the site.

The following set of criteria has been used to determine each species' potential for occurrence on the site:

- **Present:** Species is known to occur on the site, based on CNDDDB records, and/or was observed on the site during the field survey(s).
- **High:** Species is known to occur on or near the site (based on CNDDDB records within five miles, and/or based on professional expertise specific to the site or species) and there is suitable habitat on the site.
- **Low:** Species is known to occur in the vicinity of the site, and there is marginal habitat on the site.-**OR**-Species is not known to occur in the vicinity of the site; however there is suitable habitat on the site.
- **None:** There is no suitable habitat for the species on the site.-**OR**-Species was surveyed for during the appropriate season with negative results.

Only those species that are known to be present or that have a high or low potential for occurrence will be discussed further following **Table 1**.

Table 1 — Listed and Special-Status Species Potentially Occurring on the Site

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Plants				
Adobe navarretia <i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i>	--;--;--;4.2	Found in clay, sometimes serpentine mesic soil, valley and foothill grassland habitats.	April – June	None ; there is no suitable habitat on the site for this species.
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	--;--;--;1B.1	Found on margins of vernal pools.	March – May	None ; there is no suitable habitat on the site for this species.
Big-scale balsamroot <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	--;--;--;1B.2	Grasslands and rocky hillsides, as well as on serpentine soils, up to 2,000 feet elevation.	March – June	Low ; there is suitable habitat for this species on site, but the one known occurrence within 5 miles of the site is from 1957.
Bisbee Peak rush-rose <i>Helianthemum suffrutescens</i>	--;--;--;3.2	Found in chaparral habitat between 440 and 660 meters.	April – June	None ; there is no suitable habitat on the site for this species.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	--;CE;--;1B.2	Shallow ponds and margins of vernal pools.	April – June	None ; there is no suitable habitat on the site for this species.
Brandegee's clarkia <i>Clarkia biloba</i> ssp. <i>brandegeae</i>	--;--;--;4.2	Foothill woodlands and conifer habitats usually in dry areas.	May – July	Low .
Brewer's calandrinia <i>Calandrina breweri</i>	--;--;--;4.2	Chaparral, northern coastal scrub, coastal sage scrub.	March – June	None ; there is no suitable habitat on the site for this species.
Butte County fritillary <i>Fritillaria eastwoodiae</i>	--;--;--;3.2	Found in openings in yellow pine forest, foothill woodland, chaparral on serpentine soil.	March – June	None ; there is no suitable habitat on the site for this species.
Dubious pea <i>Lathyrus sulphureus</i> var. <i>argillaceus</i>	--;--;--;3	Found in foothill woodland, lodgepole forest, red fir forest, yellow pine forest.	April – May	Low .
Dwarf downingia <i>Downingia pusilla</i>	--;--;--;2B.2	Found on the edges of vernal pools in alkaline and non-alkaline soils.	March – May	None ; there is no suitable habitat on the site for this species.
Jepson's onion <i>Allium jepsonii</i>	--;--;--;1B.2	Found in woodlands of broadleaved (especially oak) and coniferous trees between 980 and 2,000 feet.	May – June	None ; site is out of elevation range for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Jepson's woolly sunflower <i>Eriophyllum jepsonii</i>	--;--;--;4.3	Chaparral, foothill woodland, northern coastal scrub, coastal sage scrub in serpentine soil.	April – June	None ; there is no suitable habitat on the site for this species.
Hispid bird's-beak <i>Chloropyron molle</i> ssp. <i>hispidum</i>	--;--;--;1B.1	Found in moist alkaline meadows and playas and coastal salt marshes.	March – June	None ; there is no suitable habitat on the site for this species.
Humboldt lily <i>Lilium humboldtii</i> ssp. <i>humboldtii</i>	--;--;--;4.2	Found in chaparral, yellow pine forest.	May – July	None ; there is no suitable habitat on the site for this species.
Layne's ragwort <i>Packera layneae</i>	FT;--;--;1B.2	Dry pine woodlands, oak woodlands, or chaparral areas associated with serpentine soils.	April – June	None ; there are no serpentine soils expected on the site.
Legenere <i>Legenere limosa</i>	--;--;--;1B.1	Vernal pools.	May – June	None ; there is no suitable habitat on the site for this species.
Oval-leaved viburnum <i>Viburnum ellipticum</i>	--;--;--;2B.3	Found in yellow pine forest and chaparral.	May – June	None ; there is no suitable habitat on the site for this species.
Pincushion navarretia <i>Navarretia myersii</i> ssp. <i>Myersii</i>	--;--;--;1B.1	Found on the margins of vernal pools.	May – June	None ; there is no suitable habitat on the site for this species.
Pine Hill ceanothus <i>Ceanothus roderickii</i>	FE;CR; --;1B.2	Chaparral, foothill woodland on serpentine soil between 250 to 610 meters.	April – June	None ; there is no suitable habitat on the site for this species.
Pine Hill flannelbush <i>Fremontodendron decumbens</i>	FE;CR; --;1B.2	Found in chaparral habitats between 540 to 1190 meters.	April – July	None ; there is no suitable habitat on the site for this species.
Red Bluff dwarf rush <i>Juncus leiospermus</i> var. <i>leiospermus</i>	--;--;--;1B.1	Occurs in vernal mesic chaparral, cismontane woodland, meadows, seeps, valley and foothill grassland, and vernal pools from 105 to 3,060 feet elevation.	March – May	None ; the nearest recorded occurrence is considered erroneous and the site is far outside the known range of the species (CDFW 2013).
Red Hills soaproot <i>Chlorogalum grandiflorum</i>	--;--;--;1B.2	Open hillsides in chaparral communities. Usually associated with gabbro or serpentine soils.	May – June	None ; there is no suitable habitat on the site for this species.
Sacramento Orcutt grass <i>Orcuttia viscida</i>	FE;--;--;1B.1	Found in deep vernal pools. Populations known from eastern Sacramento County.	April – July	None ; there is no suitable habitat on the site for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Sanborn's onion <i>Allium sanbornii</i> var. <i>sanbornii</i>	--;--;4.2	Found in chaparral, foothill woodland and yellow pine forest associated with serpentine soils.	May – September	None ; there are no suitable serpentine soils on the site for this species.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	--;--;1B.2	Shallow freshwater marshes and pond habitats.	May – October	Low ; margins of Secret Ravine provide potential habitat. However, this species was previously surveyed for on the site with negative results.
Stebbins' morning glory <i>Calystegia stebbinsii</i>	FE; CE; --;1B.1	Found in openings within chaparral, foothill and woodland habitats above 290 meters.	April – July	None ; species occurs at higher elevations.
Stinkbells <i>Fritillaria agrestis</i>	--;--;4.2	Found on wetland-riparian serpentine soils on chaparral, valley grassland, foothill woodland habitats.	May – June	None ; there is no suitable habitat on the site for this species.
Streambank spring beauty <i>Claytonia parviflora</i> ssp. <i>grandiflora</i>	--;--;4.2	Rocky mismontane woodlands, above 290 meters.	February – April	None ; there is no suitable habitat on the site for this species.
Wildlife				
Invertebrates				
California linderiella <i>Linderiella occidentalis</i>	--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season	None ; there is no suitable habitat on the site for this species.
Conservancy fairy shrimp <i>Branchinecta lynchi</i>	FE;--; --;-	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season	None ; there is no suitable habitat on the site for this species.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT;--;--;--	Blue elderberry shrubs usually associated with riparian areas.	Year-round	High ; 27 elderberry shrubs have been located on the site, with some showing evidence of possible exit holes and there are 5 occurrences within 5 miles.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season	None ; there is no suitable habitat on the site for this species.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season	None ; there is no suitable habitat on the site for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Amphibians/Reptiles				
California red-legged frog <i>Rana draytonii</i>	FT; CSC; --; --	Requires a permanent water source and is typically found along quiet slow moving streams, ponds, or marsh communities with emergent vegetation.	Optimal detection is through aquatic sampling during the summer months.	None ; there is potential dispersal habitat for this species on site, but there is no breeding habitat and there are no known occurrences within 5 miles of the site.
California tiger salamander <i>Ambystoma californiense</i>	FT;CSC;--;--	Ponded water required for breeding. Adults spend summer in small mammal burrows.	November – February (Active following relatively warm rains).	None ; the site is outside the known range for this species and there is only marginal breeding habitat on the site.
Giant garter snake <i>Thamnophis gigas</i>	FT; CT; --; --	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Optimal detection early spring through mid fall (about mid March – early November) during their active period.	None ; there is no suitable habitat on the site for this species.
Western pond turtle <i>Clemmys marmorata</i>	--;CSC;--;--	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Year-round	Low ; Secret Ravine provides areas of suitable habitat.
Western spadefoot <i>Spea hammondi</i>	--;CSC;--;--	Open grasslands and woodlands. Requires vernal pools or seasonal wetlands for breeding.	Active following relatively warm rains in spring and fall.	Low ; the seasonal wetlands and margins of Secret Ravine may provide suitable breeding habitat.
Fish				
Central Valley fall/late fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	--; CSC; --; --	Sacramento and San Joaquin Rivers and their tributaries.	Year-round	High ; Secret Ravine provides suitable habitat for this species.
Central Valley winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FE;CE;--;--	Spawn in northern Sacramento River (Redding to Red Bluff) and its tributaries. Juveniles may journey up to 5 miles upstream in other tributaries.	Year-round	None ; winter-run Chinook salmon are not known to spawn in Secret Ravine and the site is located over 25 miles from the Sacramento River.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FT; CT; --; --	Spawn in Mill, Deer, and Butte Creeks and in Yuba River and Feather River watersheds. Juveniles may journey up to 5 miles upstream in Sacramento River tributaries.	Year-round	None ; spring-run Chinook salmon are not known to spawn in Secret Ravine and the site is located over 25 miles from the Sacramento River.
Central Valley steelhead <i>Oncorhynchus mykiss</i>	FT; --; --; --	Rivers and streams tributary to the Sacramento-San Joaquin Rivers and Delta ecosystems.	Year-round	High ; Secret Ravine provides suitable habitat for this species.
Delta smelt <i>Hypomesus transpacificus</i>	FT; CE; --; --	Shallow fresh or brackish water tributary to the Delta ecosystem; spawns in freshwater sloughs and channel edgewater.	Year-round	None ; this species does not typically occur upstream from the Delta area.
Birds				
Bald eagle <i>Haliaeetus leucocephalus</i>	FT; CE; --; --	Nesting restricted to the mountainous habitats near permanent water sources in the northernmost counties of California, the Central Coast Region, and on Santa Catalina Island. Winters throughout most of California at lakes, reservoirs, river systems, and coastal wetlands.	Wintering: September – January	None ; there is no suitable habitat on the site for this species.
Bank swallow <i>Riparia riparia</i>	--; CT; --; --	Nests in riverbanks and forages over riparian areas and adjacent uplands.	Spring and summer migration	None ; there is no suitable nesting habitat on the site for this species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	--; CT; --; --	Nests in higher areas of coastal salt and brackish or freshwater marshes dominated by rushes, grasses, and sedges.	Year-round	None ; there is no suitable habitat on the site for this species.
Cooper's hawk <i>Accipiter cooperii</i>	--; CSC; --; -- (Nesting)	Nests in riparian corridors. Forages in woodlands and riparian areas.	Year-round Nesting: March – August	High ; riparian woodland along Secret Ravine provides suitable habitat for this species.
Grasshopper sparrow <i>Ammodramus savannarum</i>	--; CSC, --; -- (Nesting)	Found in short to middle-height, moderately open grasslands with scattered shrubs.	March - May	Low ; although the site supports habitat, no sightings have occurred within 5 miles.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Osprey <i>Pandion haliaetus</i>	--;CSC;--;-- (Nesting)	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	March - October	High ; site supports nesting habitat and 1 occurrence within 5 miles.
Purple martin <i>Progne subis</i>	--;CSC; --;-- (Nesting)	Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.	May - July	High ; snag nesting habitat probable on site and 1 occurrence within 5 miles.
Song sparrow ("Modesto" population) <i>Melospiza melodia</i>	--;CSC;--;--	Requires low, dense vegetation for protective cover, usually near water, in emergent vegetation, or in other moist areas.	Year-round	Low ; although the site supports habitat, no sightings have occurred within 5 miles.
Swainson's hawk <i>Buteo swainsoni</i>	--; CT; --; --	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grasslands, etc.)	Nesting: early March – early September	Low ; although the site supports marginal habitat, no sightings have occurred within 5 miles.
Tricolored blackbird <i>Agelaius tricolor</i>	--;CSC;--;-- (Nesting colony)	Nests in dense blackberry, cattail, tules, willow, or wild rose within emergent wetlands throughout the Central Valley and foothills surrounding the valley.	Nesting: mid-April – late July	None ; there is no suitable nesting habitat on the site for this species.
Western burrowing owl <i>Athene cunicularia hypugaea</i>	--;CSC;--;--; (burrow sites and some wintering sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat.	Year-round	Low ; although the site supports marginal habitat, no sightings have occurred within 5 miles.
White-tailed kite <i>Elanus leucurus</i>	--;CFP;--;--	Nests in isolated trees or woodland areas with suitable open foraging habitat.	Year-round	High ; Site supports suitable habitat and there is 1 occurrence within 5 miles of the site.
Other Raptors (Hawks, Owls and Vultures)	MBTA and §3503.5 Department of Fish and Game Code	Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, and urban communities.	February – September	Present.
Mammals				
Pallid bat <i>Antrozous pallidus</i>	--;CSC;--;--	Common roost sites are rock crevices, old buildings, bridges, caves, mines, and hollow trees.	Year-round	Low ; there is potential suitable nesting habitat but no known occurrences within 5 miles of the site.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	--;CT;- --;	Requires caves, mines, tunnels, buildings or other human-made structures for roosting.	Year-round	None ; there is no suitable roosting habitat for this species on the site.
<div> <div> Federally Listed Species: FE = federal endangered FT = federal threatened FC = candidate PT = proposed threatened FPD = proposed for delisting FD = delisted </div> <div> California State Listed Species: CE = California state endangered CT = California state threatened CR = California state rare CSC = California Species of Special Concern CFP = California Fully Protected </div> <div> CNPS* Rank Categories: 1A = plants presumed extinct in California 1B = plants rare, threatened, or endangered in California and elsewhere 2 = plants rare, threatened, or endangered in California, but common elsewhere 3 = plants about which we need more information 4 = plants of limited distribution Other Special-Status Listing: SLC = species of local or regional concern or conservation significance </div> </div>				
Source: Foothill Associates				

5.4.1 Listed and Special-Status Plants

Based on a records search of the CNDDDB and the USFWS list, special-status plant species have the potential to occur on the site or in the vicinity of the site. Based on field observations and literature review specific to the special-status plants listed in **Table 1**, the potential for occurrence has been determined for each species. No special-status plant species are known to be present or considered to have a high potential to occur on the site due to the high level of soil manipulation on the site from historical placer mining. The species that are considered to have a low potential to occur on the site include the following: big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*), dubious pea (*Lathyrus sulphureus* var. *argillaceus*), and Sanford's arrowhead (*Sagittaria sanfordii*).

Species with a Low Potential for Occurrence

Big-Scale Balsamroot

Big-scale balsamroot is a perennial herb native to California that blooms from March through June. Big-scale balsamroot occurs in grassland, rocky hillsides, and serpentine soils. There is one CNDDDB record within five miles of the site (**Figure 3**) (CDFW 2013), although it is from 1957. This species was not observed during the biological assessment, although the field survey was not performed during the identification period for this species. Although serpentine soils are not documented to occur within the site, the annual grassland is potential habitat for this species. Because there is one CNDDDB record for this species within five miles of the site, and suitable habitat occurs, big-scale balsamroot has a low potential to occur onsite.

Brandege's Clarkia

Brandege's clarkia is typically found in foothill woodlands and low elevation conifer forests. This species blooms from May through June. There is one record of this species occurring within five miles of the project site (**Figure 3**) (CDFW 2013). This species was not observed onsite during the biological assessment. However, the biological assessment was performed outside of the typical blooming period for this species. The oak woodlands on the site contain potential habitat for this species. Therefore, this species has a low potential to occur on the site.

Dubious Pea

Dubious pea is a perennial herb that is native to California and blooms from April through May. Dubious pea is found in habitats including foothill woodland at elevations between 160 to 1130 meters. There are no records of this species occurring within five miles of the project site (CDFW 2013). The biological assessment was performed outside of the typical blooming period for this species. The oak woodlands on the site contain potential habitat for this species. Therefore, this species has a low potential to occur on the site.

Sanford's Arrowhead

Sanford's arrowhead is a perennial herb that blooms from May through October and occurs in shallow, fresh-water conditions. Secret Ravine may have areas considered marginal habitat for this species. There are no CNDDDB records of this species within five miles of the site (CDFW 2013), and this species was not observed during the biological assessment. However, there are some suitable habitats associated with Secret Ravine. Therefore, the potential for this species to occur on the site is low.

5.4.2 Listed and Special-Status Animals

Based on a records search of the CNDDDB and the USFWS list, special-status animal species have the potential to occur on the site or in the vicinity. Based on field observations and literature review specific to the special-status animals listed in **Table 1**, the potential for occurrence has been determined for each species.

Species that are known to be present or that are considered to have a high potential to occur on the site include the following: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley steelhead (*Oncorhynchus mykiss*), Cooper's hawk (*Accipiter cooperii*), osprey (*Pandion haliaetus*), purple martin (*Progne subis*), white-tailed kite (*Elanus leucurus*), and various other raptor species.

The species that are considered to have a low potential to occur on the site include the following: western pond turtle (*Clemmys marmorata*), western spadefoot (*Spea hammondi*), grasshopper sparrow (*Ammodramus savannarum*), song sparrow, "Modesto population" (*Melospiza melodia*), Swainson's hawk (*Buteo swainsonii*), western burrowing owl (*Athene cunicularia hypugaea*), and Pallid bat (*Antrozous pallidus*).

Species with a High Potential for Occurrence

Valley Elderberry Longhorn Beetle

The USFWS has determined the range of the beetle to include the watersheds of the American, San Joaquin, and Sacramento rivers and their tributaries up to approximately 3,000 feet above MSL (USFWS 1980). Typically, the beetles are found on elderberry shrubs within riparian plant communities. Some studies have found that multiple elderberry shrubs clumped together provide superior habitat for the beetle, while isolated elderberry shrubs are less likely to support beetle populations (Collinge *et al.* 2001). Typical plant species that co-occur with the elderberry shrubs include California sycamore (*Platanus racemosa*), willows, blackberry (*Rubus* spp.), and poison oak (USFWS 1984). Beetles require elderberry stems with a basal diameter of at least 1 inch in order for the larvae to utilize the stems (USFWS 1999). The valley elderberry longhorn beetle depends on elderberry shrubs for its entire lifecycle. Adults are typically active from March through May during the flowering period of the elderberry shrub. The female lays its eggs on the leaves and stems of the elderberry shrub. The larvae emerge within a few days and burrow into the elderberry stem. The larvae feed on the stem pith until they pupate. When the host shrub begins flowering, the pupa emerges from the stem as an adult (Barr 1991).

There are five records in the CNNDDB for this species within five miles of the site, including one downstream within the Secret Ravine watershed (**Figure 3**) (CDFW 2013), and 27 elderberry shrubs with stems large enough to provide suitable VELB habitat were documented on the site in 2007 (**Figure 4**). Thirteen of the shrubs on the southern half of the site showed evidence of beetle exit holes (**Appendix A**), although no beetles have been observed on the site. Based on the presence of numerous elderberries with evidence of past beetle occupation and suitable elderberry habitat, the valley elderberry longhorn beetle has a high potential to occur on the site.

Special-Status Fish Species

Chinook salmon is the largest of the Pacific salmon and has a distribution historically ranging from the Ventura River in California to Point Hope, Alaska in North America, and in northeastern Asia from Hokkaido, Japan to the Anadyr River in Russia.

The “runs” of Chinook salmon in California are differentiated by the maturity of fish entering freshwater, time of spawning migrations, spawning areas, incubation times, incubation temperature requirements, and migration timing of juveniles. The differences in life histories effectively isolate the various runs (Moyle *et. al.* 1995). Only fall and late fall-run Chinook salmon are expected to be found on the project site because spring and winter run salmon spawn far north of the project area.

Fall/late-fall run Chinook salmon enter the Sacramento-San Joaquin River system from October through February, and spawning occurs in January, February, and March, although it may extend into April in some years (Molye *et. al.* 1995). While migrating and holding in the rivers and tributaries, fall/late fall-run Chinook salmon do not feed, relying instead on stored body fat reserves for maintenance. Eggs are laid in large depressions (redds) excavated in gravel beds and the embryos hatch following a 3 to 4

month incubation period. The fry remain in the gravel for another 2 to 3 weeks and once their yolk sac is absorbed, they emerge and begin feeding. Juveniles hold within the rivers and tributaries for nearly a year before migrating to the ocean the following December through March (Moyle *et. al* 1995).

Central Valley steelhead rely on streams, rivers, estuaries and marine habitat during their lifecycle. In freshwater and estuarine habitats, steelhead feed on small crustaceans, insects and small fishes. Eggs are laid in small and medium gravel and need good water flow (to supply oxygen) to survive. After emerging from the redds, steelhead remain in streams and rivers for 1 to 4 years before migrating through the estuaries to the ocean. Unlike salmon, steelhead migrate individually rather than in schools. Steelhead spend 1 to 5 years at sea before returning to natal streams or rivers. At least two specific storages of steelhead have developed: those that enter fresh water during fall, winter and early spring (the winter run); and those that enter in spring, summer and early fall (the summer run). Steelhead do not always die after spawning, but will migrate downstream through estuaries to the ocean.

Although there are no CNDDDB records for these species within five miles of the site (CDFW 2013) and they were not observed during the field surveys, Secret Ravine is known salmonid habitat and is designated as Essential Fish Habitat for Chinook salmon. Therefore, the potential for this species to occur in the perennial drainage on the site is high.

Cooper's Hawk

Cooper's hawks are usually found in riparian woodlands near stream courses or other water. The breeding season for this species is typically between March and August (Zeiner *et al.* 1990). There are no records in the CNDDDB for this species within five miles of the project site (CDFW 2013), although the CNDDDB database tends to under-represent the species. This species was not observed onsite during the biological assessment. However, the riparian community associated Secret Ravine on the southern portion of the site provides good potential nesting and foraging habitat for this species. Therefore, the potential for this species to occur on the site is high.

Osprey

Osprey are found within 15 miles of a good fish-producing body of water, such as rivers, lakes, reservoirs, bays, estuaries, and surf zones. Ospreys use large trees, snags and dead-topped trees in open forest habitats for cover and nesting. There is one record of osprey within five miles of the project site (**Figure 3**) (CDFW 2013). The riparian community associated with Secret Ravine may provide potential nesting habitat for this species. Therefore, the potential for this species to occur on the site is high.

Purple Martin

Purple martins are summer residents of California, nesting mostly in old woodpecker cavities but also in human-made structures. Nests are often located in tall, isolated trees or snags. There is one record of this species within five miles of the project site (**Figure 3**) (CDFW 2013). Because the potential for nesting sites in snags or isolated trees is

high, and because this species has been recorded within five miles of the project site, the potential for this species to occur onsite is high.

White-Tailed Kite

The white-tailed kite is a medium sized raptor that is a yearlong resident in coastal and valley lowlands in California. White-tailed kites are monogamous and breed from February to October, peaking from May to August (Zeiner *et al.*, 1990). This species nests near the top of dense oak, willow, or other large trees. There is one CNDDDB record for white-tailed kite listed within five miles of the project site (**Figure 3**) (CDFW 2013). This species was not observed on the site during the biological assessment. However, the grassland habitat on the site provides potential foraging habitat for this species and there are trees associated with the oak woodland community on the site that could provide potential nesting habitat. Therefore, the potential for this species to occur on the site is high.

Raptor and Other Migratory Bird Species

Raptor species forage and nest in a variety of habitats throughout Placer County. The nests of raptors and most other birds are protected under the MBTA. Raptors are also protected by Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. The oak woodland, riparian forest, and annual grassland on the project site may provide potential nesting and foraging habitat for raptors and other protected bird species. Although no active nests were observed on the site, one red-tailed hawk was heard vocalizing on the site July 2006 and a turkey vulture was also observed in flight over the site. Raptors and other protected migratory birds have a *high* potential to occur on the site.

Species with a Low Potential for Occurrence

Western Pond Turtle

Western pond turtles require slow moving perennial aquatic habitats with suitable basking sites. Pond turtles have sometimes adapted to using irrigation ditches. Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). There is one CNDDDB record for this species within five miles of the project site (**Figure 3**) (CDFW 2013). No turtles were observed on the project site during the biological assessment. However, there is some potential habitat for this species within Secret Ravine. Therefore, the potential for this species to occur on the site is low.

Western Spadefoot

The western spadefoot is found throughout the Central Valley south to Baja Mexico. It is found in a variety of habitats including grasslands, washes, and floodplains. It breeds in seasonal depressional wetlands and deep vernal pools (Stebbins 2003). During the summer months, adults will seek out upland refugia such as small mammal burrows. The breeding period is typically January through May (Stebbins 2003). There is one record for this species in the CNDDDB within five miles of the project site (**Figure 3**) (CDFW 2013). This species was not observed on the site during the biological assessment.

However, the limited depressional seasonal wetlands and some areas along Secret Ravine on the site provide some potential breeding habitat for this species and there are small mammal burrows on the site suitable for use as upland refugia. Therefore, the potential for this species to occur on the site is low.

Grasshopper Sparrow

Grasshopper sparrows are regularly seen in California during the summer breeding season. Little is known of their winter range, but some birds are known to overwinter in the state. Grasshopper sparrows frequent dense, dry grasslands and utilize scattered shrubs for singing perches. The annual grassland on the site provides suitable nesting and foraging habitat, although there are no records for this species in the CNDDDB within five miles of the project site (CDFW 2013). Therefore, the potential for this species to occur on the site is low.

Song Sparrow

Song sparrows are year-round residents of California most commonly found in freshwater marsh and early stage riparian habitat. Moderately dense vegetation, such as cattails, willow thickets, or blackberry, near a source of water is required for nesting. Song sparrows forage primarily on the ground (Shuford and Gardali, 2008). The riparian forest provides suitable nesting and foraging habitat. There are no records for this species in the CNDDDB within five miles of the project site (CDFW 2013). Therefore, the potential for this species to occur on the site is low.

Swainson's Hawk

Swainson's hawk is a long-distance migrant with nesting grounds in western North America. The Swainson's hawk population that nests in the Central Valley winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Bradbury *et. al.* in prep.). Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July (Zeiner *et. al.* 1990). In the Central Valley, Swainson's hawks nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. Nest locations are usually in close proximity to suitable foraging habitats, which include fallow fields, annual grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and De Water, 1994). Although there are no records in the CNDDDB of this species within five miles of the site, there are three records within 10 miles of the site (CDFW 2013) and the larger cottonwoods and oaks in the riparian woodland present potential nesting habitat. The species was not observed on the site during the biological assessment. For these reasons, Swainson's hawk has a *low* potential to occur within the site.

Western Burrowing Owl

Western burrowing owl is a small ground-dwelling owl that occurs in western North America from Canada to Mexico, and east to Texas, and Louisiana. Although in certain

areas of its range western burrowing owls are migratory, these owls are predominantly non-migratory in California (Zeiner *et al.*, 1990). The breeding season for western burrowing owls occurs from February to August, peaking in April and May (Zeiner *et al.*, 1990). Western burrowing owls nest in burrows in the ground, often in old ground squirrel burrows. This owl is also known to use artificial burrows including pipes, culverts, and nest boxes. There are no CNDDDB records for this species within five miles of the site (CDFW 2013) and no western burrowing owls were observed during the biological assessment. However, the grassland habitats on the site provide potential habitat for this species. Suitable burrows for this species were not observed during the biological assessment. This lowers the potential for this species to occur. Therefore, the potential for burrowing owls to occur on the site is low.

Pallid Bat and Other Special-Status Bat Species

Several special-status bat species, which are State Species of Concern, have the potential to roost on the project site. Pallid bats roost in rock crevices and caves and occasionally hollow trees and buildings. Long-eared myotis (*Myotis evotis*) live in thinly forested areas and occasionally caves. Hoary bats (*Lasiurus cinereus*) live in wooded areas and hang in trees. Western red bat (*Lasiurus blossevillii*) roosts primarily in trees, usually at edges of streams, fields, or urban areas.

There are no CNDDDB records for any of these special-status bat species within five miles of the project site (CDFW 2013) and no bat species were observed onsite during the biological assessment. However, the oak woodlands provide potential roosting habitat; therefore, the potential is *low* for special-status bat species to occur on the site.

5.5 Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the Placer County General Plan. Sensitive habitats known to occur on the site, which include wetlands/waters of the U.S., are depressional seasonal wetlands, riverine seasonal wetlands, mixed riparian forest, and oak woodlands (Figure 4).

5.5.1 Potential Jurisdictional Waters of the U.S.

Potential jurisdictional waters of the U.S. located on the site total approximately 1.13 acres. Of this acreage, approximately 0.53 acre of riverine seasonal wetland, 0.15 acre of depressional seasonal wetland, 0.44 acre of perennial drainage, 0.01 acre of intermittent drainage, and 0.01 acre of pond. Potential wetland areas on the site have been formally delineated. However, the Corps has not verified these acreages as of the date of this biological resource assessment.

Jurisdictional waters of the U.S. include jurisdictional wetlands as well as all other waters of the U.S. such as creeks, ponds, and intermittent drainages. Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and

duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Corps 1987). The majority of jurisdictional wetlands in the United States meet the following three wetland assessment criteria: hydrophilic vegetation, hydric soils, and wetland hydrology. Jurisdictional waters of the U.S. can also be defined by exhibiting a defined bed and bank and OHWM. As discussed in **Regulatory Framework**, jurisdictional waters of the U.S. are subject to Section 404 of the CWA and are regulated by the Corps.

5.5.2 Protected Trees

Approximately 3,000 protected trees were surveyed on the project site, consisting of interior live oaks (*Quercus wislizeni*), valley oaks (*Quercus lobata*), blue oaks (*Quercus douglasii*), and oracle oaks (*Quercus x morehus*). Detailed data on protected and dead trees located on the project site are contained under separate cover in the project *Arborist Report*.

6.0 DISCUSSION AND RECOMMENDATIONS

As discussed, the project site consists of land that supports primarily annual grassland and riparian oak woodland habitats. Known or potential biological constraints on the site include the following:

- Potential habitat for special-status plant species (including big-scale balsamroot, Brandegee's clarkia, dubious pea, and Sanford's arrowhead);
- Potential habitat for valley elderberry longhorn beetle;
- Potential special-status fish habitat;
- Potential habitat for western pond turtle;
- Potential habitat for spadefoot;
- Potential nesting habitat and foraging habitat for raptors (including Cooper's hawk, osprey, white-tailed kite, and Swainson's hawk) and other species protected by the MBTA (including purple martin, song sparrow, and grasshopper sparrow);
- Potential western burrowing owl habitat;
- Potential special-status bat habitat;
- Sensitive habitats (wetlands including seasonal wetlands, mixed riparian forest, perennial drainage, and oak woodland); and
- Protected trees.

6.1 Special-Status Plants

As discussed, the site contains potential habitat for four special-status plant species. Based on this, focused special-status plant surveys are recommended to determine presence or absence of the potentially occurring plant species identified in **Table 1**. The survey should be conducted by a qualified biologist during the blooming period for all species that could potentially occur on the site as listed in **Table 1** of this biological resource assessment. If special-status plant species are found, then a mitigation plan should be prepared in consultation with the appropriate agencies. The plan should detail the various mitigation approaches to ensure no net loss of rare plants. Examples of mitigation include avoidance of the resource, salvage of plant materials where possible, acquisition of credits at an approved mitigation bank, or acquisition and preservation of property that supports these species.

6.2 Valley Elderberry Longhorn Beetle

Although no Valley Elderberry Longhorn Beetle (VELB) were observed on the site, there is a high potential for VELB to be present on the site due to the large number of elderberry shrubs present on the site (**Figure 4**) and evidence of past presence as shown by VELB exit holes (**Appendix A**). Although VELB has been proposed for delisting, final action has not been taken by the USFWS. If VELB is still federally listed during

development of the project, then coordination with the USFWS will be required through either the Section 7 (in conjunction with a CWA Section 404 permit from the Corps) or the Section 10 (if no other Federal permits are required) process to determine appropriate avoidance and mitigation measures.

Currently, the USFWS suggests mitigation for impacts to any elderberry shrub with stems greater than 1 inch in diameter at ground level. USFWS calls for a 100-foot buffer to be maintained around any existing elderberry shrub to prevent potential VELB habitat from being impacted. If direct impacts to the shrubs cannot be avoided, mitigation may be required. Mitigation for impacts to elderberry shrubs typically involves the transplantation of the shrubs to be impacted, along with the planting of additional elderberry shrubs and associated riparian plant species within a designated mitigation area. The number of additional elderberry shrubs and associated vegetation varies depending on the number and diameter of elderberry stems suitable for use by VELB that are impacted by the project. The USFWS requires transplantation to occur between the beginning of November and the first two weeks of February when elderberries are typically dormant and the chance of transplantation success is higher.

The diameter and number of live stems of each elderberry shrub were inventoried in 2007 (**Appendix A**). Since mitigation requirements are based on the size of impacted elderberry stems, presence or absence of VELB exit holes, and location in riparian habitat, it is recommended that all elderberries on the site be resurveyed during the spring or summer months to determine their current condition.

6.3 Special-Status Fish Species

Secret Ravine is not expected to be directly impacted by the proposed project. Therefore, no direct impacts to potential habitat for these species are expected and no further mitigation for these species is expected to be necessary. Care should be taken to avoid impacts to water quality from sediment or pollutant runoff into Secret Ravine. This will be addressed during construction by the preparation and implementation of a storm water pollution prevention plan (SWPPP). The project design should integrate design features that will minimize creek impacts, such as maintaining vegetated setbacks and treating runoff on site. If the project requires a streambed alteration agreement for impacts to Secret Ravine or its associated riparian habitat, CDFW will likely require mitigation measures to preserve existing salmonid habitat on the site.

6.4 Western Pond Turtle

Secret Ravine may be utilized by western pond turtle and the surrounding uplands provide potential nesting and overwintering habitat. Therefore, it is recommended that a pre-construction survey for western pond turtle be conducted prior to any construction activity that would directly impact aquatic habitat or occur within 300 feet of the perennial drainage. If western pond turtles are found during the pre-construction survey, CDFW and USFWS should be contacted regarding additional mitigation measures that may be required. Additional mitigation measures would only be considered in the event that western pond turtles were located during the pre-construction survey.

6.5 Western Spadefoot

Any impacts to seasonal wetlands on the site could potentially impact western spadefoot. Wetland conservation and mitigation measures implemented as part of the 404 permit process discussed in **Section 6.9** are expected to compensate for any potential impacts to this species. Therefore, specific mitigation measures are not recommended.

6.6 Raptors and Other Avian Species

As discussed earlier, several species of raptors and other protected birds forage and may nest on the site including Cooper's hawk, osprey, white-tailed kite, Swainson's hawk, purple martin, song sparrow, and grasshopper sparrow. Active raptor nests are protected by the California Fish and Game code Section 3503.5 and the MBTA. For this reason, if construction is expected to occur during the typical raptor nesting season (February-August), a pre-construction raptor survey is recommended to determine if active raptor nests are present on the project site. The survey should be conducted by a qualified biologist no more than 30 days prior to the onset of construction activities.

If active raptor nests are found on or within 500 feet of the project impact area, construction activities should not occur within 500 feet of the nests, or up to ¼-mile of the nest if it is an active Swainson's hawk nest, until the young have fledged or until the biologist has determined that the nest is no longer active. Extensive buffers are not necessary for nesting avian species protected solely by the MBTA. However, depending on the species, site conditions, and the proposed construction activities near the active nest, a small buffer, typically, a 50-100 feet wide, may be prescribed, as determined by the biologist. If active nests are found, the CDFW should be consulted for mitigation measures that may be required. If construction activities are proposed to begin during non-breeding season (September-January), a survey is not required and no further studies are necessary.

6.7 Western Burrowing Owl

Although burrowing owls were not observed during the biological assessment, the site contains annual grassland habitat that is suitable foraging and nesting habitat for burrowing owl. Although no suitable burrows were observed during the biological assessment, the grassland habitat is still considered potential habitat for this species. For this reason, it is recommended that a burrowing owl survey of the project impact area be conducted no more than 30 days prior to the onset of construction. Burrowing owls can be present during all times of the year in California, so this survey is recommended regardless of the time construction activities occur. If active owl burrows are located during the pre-construction survey, it is recommended that a 250-foot buffer zone be established around each burrow with an active nest until the young have fledged and are able to exit the burrow. If occupied burrows are found with no nesting occurring, if active burrows are found after the young have fledged, or if development commences after the breeding season (typically February-August), passive relocation of the birds should be performed. Passive relocation involves installing a one-way door at the burrow entrance, which encourages the owls to move from the occupied burrow. CDFW should be consulted for current guidelines and methods for passive relocation of any owls found

on the site. Mitigation for project impacts that result in relocation of burrowing owls and loss of burrows and/or foraging habitat may be required for CEQA projects (CDFW recommends 6.5 acres of foraging habitat be preserved for each active burrow that would be impacted by project activities). The lead agency under CEQA, in coordination with CDFW, is responsible for prescribing appropriate mitigation for any project-related impacts to burrowing owls. These mitigation measures would only apply in the event that burrowing owls were encountered during the pre-construction survey.

6.8 Special-Status Bat Species

The existing large trees could provide potential roosting habitat for various bat species that occur in the vicinity of the study area. Prior to the initiation of construction activities, it is recommended that a pre-construction survey be performed by a qualified biologist to determine if special-status bat species are roosting in tree crevices in the oak woodlands within the project impact area. If special-status bat species are present and roosting on the project site, then CDFW should be consulted regarding potential additional mitigation measures. Adoption of mitigation measures for roosting bat species would be considered only if special-status bat species are found to be roosting within the project impact area.

6.9 Sensitive Habitats

Potential jurisdictional waters of the U.S. located on the site total approximately 1.13 acres. Of the total, there is an estimated 0.53 acre of riverine seasonal wetland, 0.15 acre of depressional seasonal wetland, 0.44 acre of perennial drainage, 0.01 acre of intermittent drainage, and 0.01 acre of pond. These areas are regulated by the Corps. Additionally, these areas are protected under the Town of Loomis General Plan. Consequently, it is recommended that the jurisdictional assessment for the project site should be submitted to the Corps and the appropriate Section 404 permit should be acquired for any project-related impacts to jurisdictional features. Any waters of the U.S. that would be lost or disturbed should be replaced or rehabilitated on a “no-net-loss” basis in accordance with the Corps’ mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the Corps. Impacts to jurisdictional features would also require a 401 water quality certification from the Regional Water Quality Control Board.

It is also recommended that a Streambed Alteration Agreement be obtained from CDFW, pursuant to Section 1600 of the CDFG Code, for each stream crossing and any other activities affecting the bed, bank or associated riparian vegetation of the perennial drainage (Secret Ravine). If required, the project applicant should coordinate with CDFW in developing appropriate mitigation, and should abide by the conditions of any executed permits.

As discussed in Section 3.8, the Loomis General Plan typically requires setbacks of 100 feet from the outermost edge of riparian vegetation along perennial creeks and 50 foot setbacks from ephemeral or intermittent drainages. Lesser setbacks may be approved based on site-specific studies. On the northern half of the site, the riparian woodland on

the site is extensive, ranging from approximately 40 to 180 feet in width, and is confined to a lower terrace along Secret Ravine (**Figure 4**). This terrace is approximately 8 to 10 feet below the majority of the site. As shown in **Figure 5**, the proposed development will be constructed primarily on the upper terrace of the site. With implementation of standard erosion control and stormwater management measures during design and construction, the proposed development is not expected to have significant impacts on the aquatic resources of Secret Ravine due to the existing grade difference and width of the riparian vegetation.

6.10 Protected Trees

A tree permit will be required prior to the removal of any protected tree. Once development plans are finalized, impacts to protected trees should be assessed and the Town of Loomis consulted to determine the appropriate mitigation measures. Detailed information on tree impacts and mitigation requirements is included in the project Arborist Report.

6.11 Summary of Recommended Conservation Measures

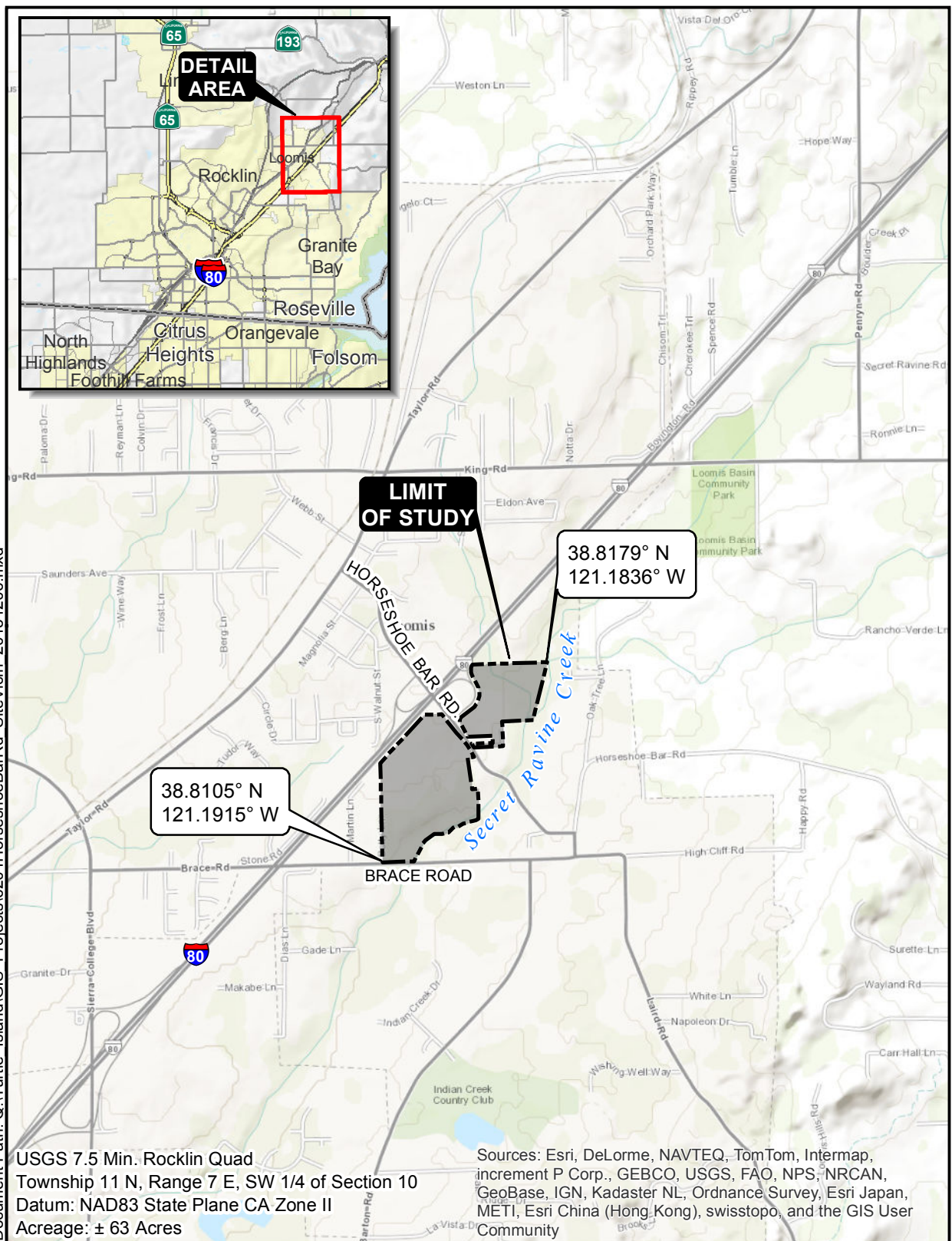
- Obtain necessary permits for work done within Secret Ravine or other jurisdictional wetlands (Section 404 Clean Water Act permit, Section 401 Water Quality Certification, and 1600 Streambed Alteration Agreement).
- Obtain Tree Permit from Town of Loomis.
- Conduct special-status plant surveys during bloom season (March – October).
- Re-inventory elderberry shrubs to document stem diameter, presence or absence of VELB exit holes, and surrounding habitat characteristics.
- Coordinate with USFWS to determine avoidance or mitigation measures for VELB habitat, if required.
- Conduct pre-construction Worker Environmental Awareness Training regarding identification of and protection for special-status species and sensitive habitats on the project site.
- Conduct pre-construction survey for western pond turtle if construction will occur in or within 300 feet of Secret Ravine.
- Conduct pre-construction survey for active bird nests, bat roosts, and burrowing owls in project impact area.
- Prepare project SWPPP and implement BMPs to prevent sediment and runoff from entering Dry Creek.

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SITE AND VICINITY



FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

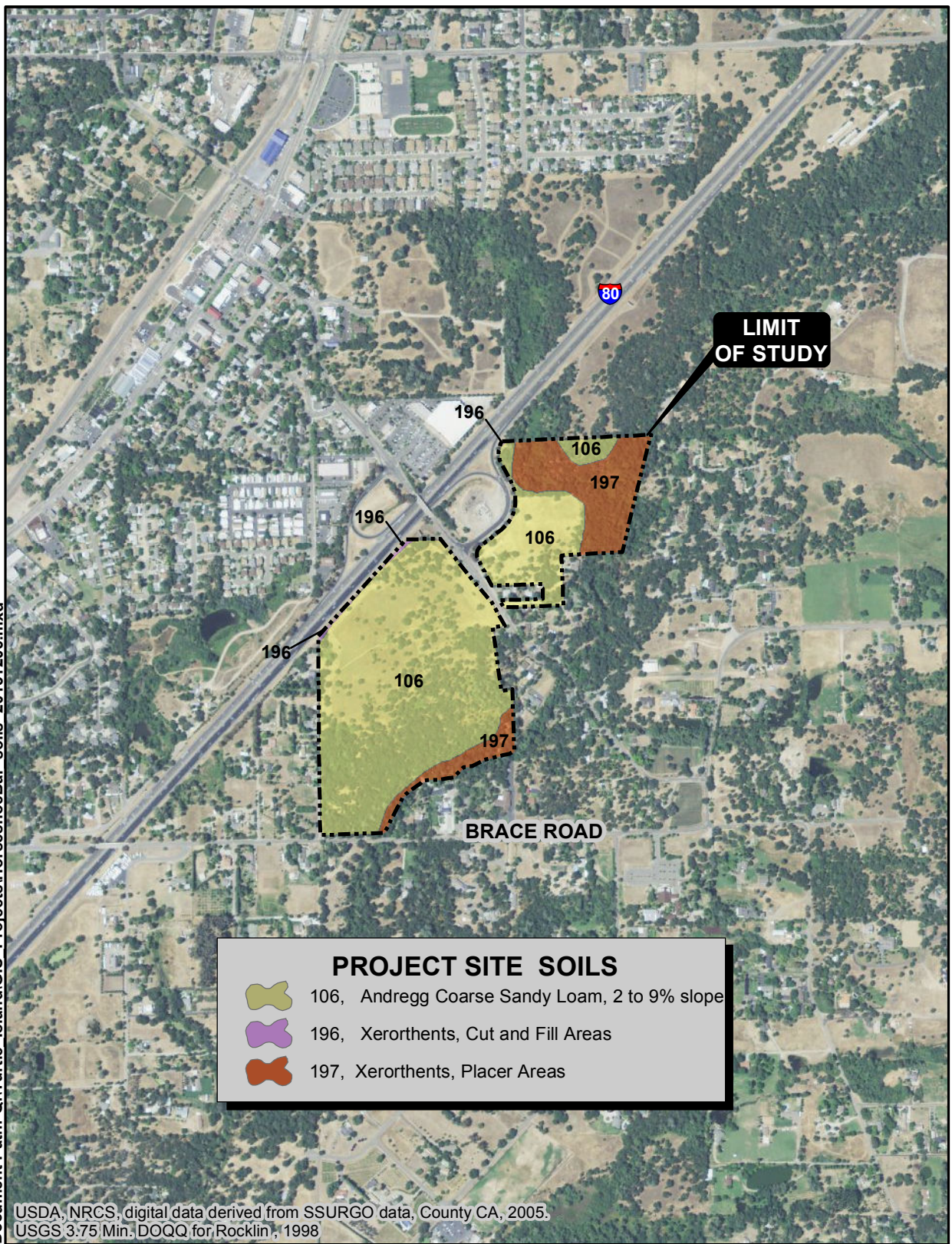





0 750 1500
SCALE IN FEET

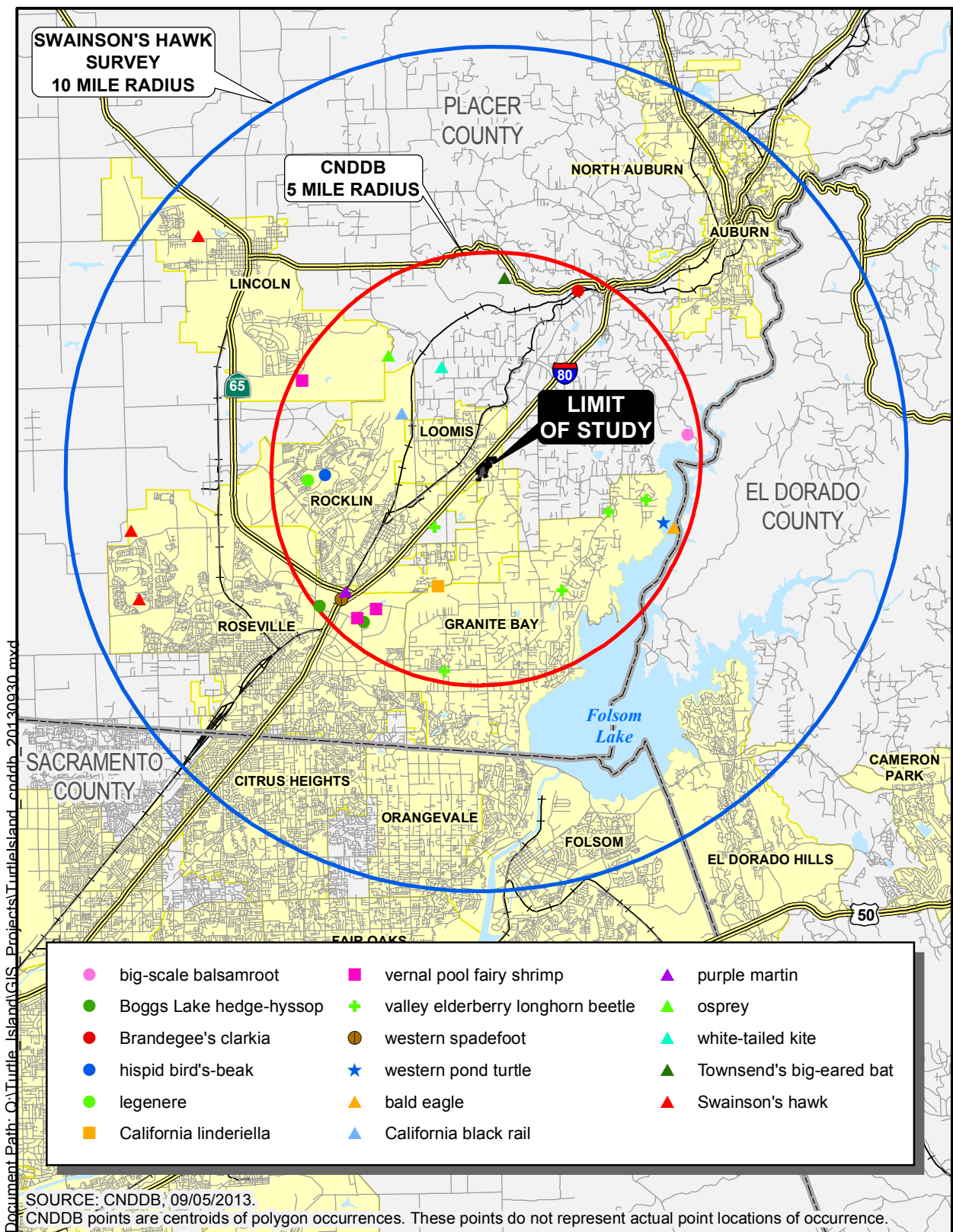
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FIGURE 1

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SOILS				
 FOOTHILL ASSOCIATES ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE		 0 500 1000 SCALE IN FEET	Drawn By: MUB	FIGURE 2
			Date: 12/06/2013	



CNDDB

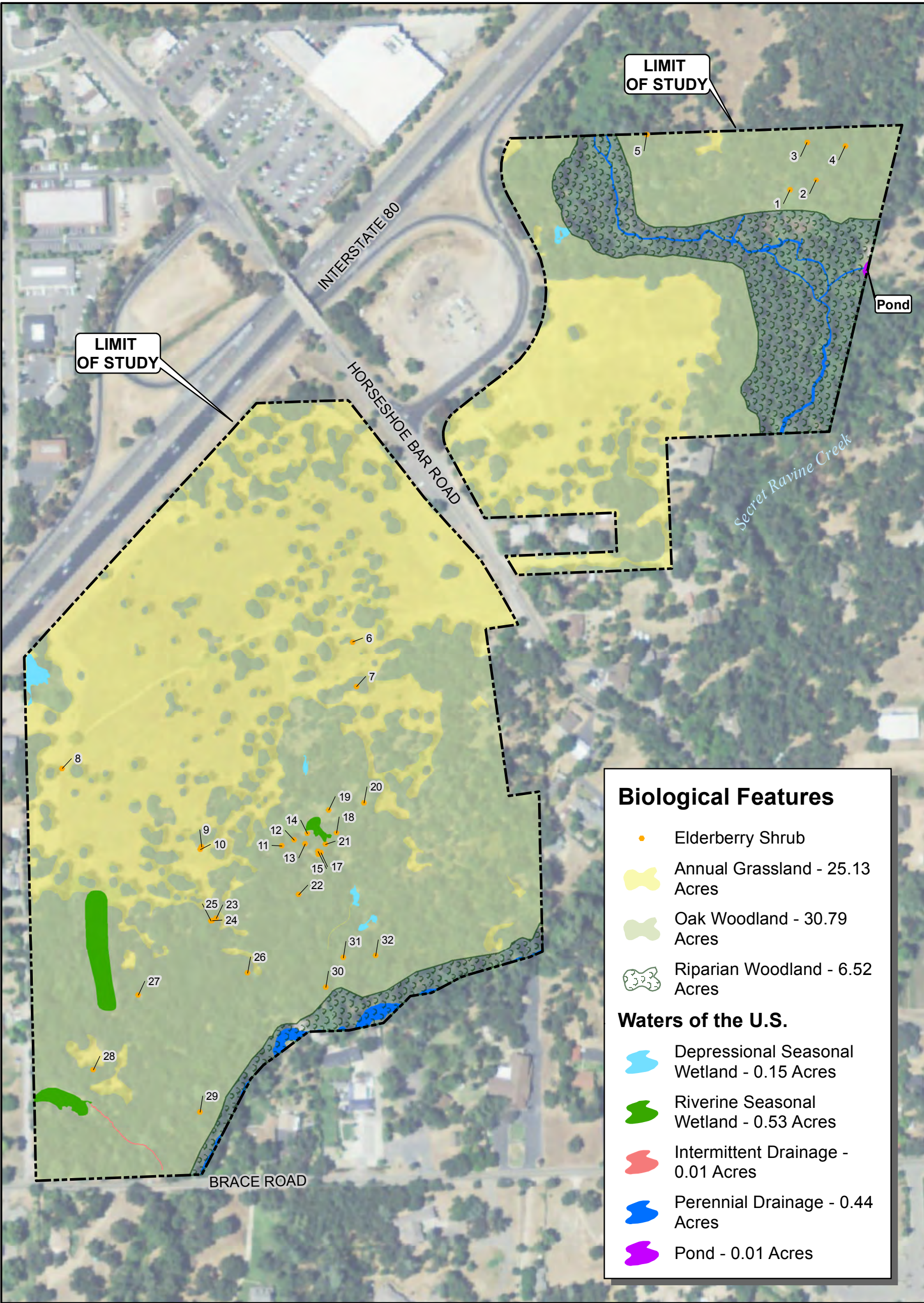


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SCALE IN MILES




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Date: 09/30/2013

FIGURE 3

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BIOLOGICAL CONSTRAINTS

 FOOTHILL ASSOCIATES ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE		0 250 500  SCALE IN FEET	Drawn By: MUB Date: 1/20/2014	FIGURE 4
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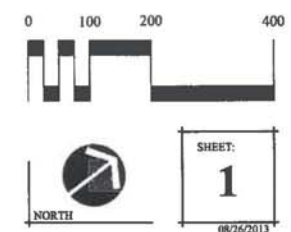
LOOMIS PROJECT

RETAIL COMMERCIAL:	6.2 ACRES	10%
RESIDENTIAL:	28.4 ACRES	43%
OPEN SPACE:	30.6 ACRES	47%
	65.2 ACRES	100%

WEST SIDE				EAST SIDE				
RETAIL COMMERCIAL:				6.2 ACRES	14%			
396 APARTMENTS:		9.1 UNITS/ACRE	19.6 ACRES	45%	168 APARTMENTS:	7.8 UNITS/ACRE	8.8 ACRES	41%
OPEN SPACE:			17.8 ACRES	41%	OPEN SPACE:		12.8 ACRES	59%
			43.6 ACRES	100%			21.6 ACRES	100%
AUGUST				HORSESHOE BAR ROAD				2013
				LOOMIS, CALIFORNIA				

LEGEND

- PROPOSED RETAIL COMMERCIAL
- PROPOSED RESIDENTIAL CONDOMINIUM
- PROPOSED RESIDENTIAL GARAGES
- ELDERBERRY SHRUB
- PROJECT LANDSCAPE
- PROJECT OPEN SPACE
- PROJECT WETLANDS




 LANDSCAPE ARCHITECT:
 LANDESIGN GROUP
 SEBASTOPOL, CA
 (707) 829-2580

Appendix A — 2007 Elderberry Shrub Data

Shrub #	Number of Stems <1 "	Number of Stems 1-3 "	Number of Stems 3-5"	Number of Stems >5"	Stem Total	Exit Holes?
1		1			1	N
2	7	1			8	N
3*	1				1	N
4*	1				1	N
5*	1				1	N
6		1		2	3	Y
7		2	2	3	7	Y
8	1	10		1	12	N
9		9		3	12	Y
10		9	1		10	Y
11		1			1	N
12		2	1		3	N
13			1		1	N
14		4		1	5	N
15			2		2	Y
16		1	2		3	N
17			2		2	N
18				2	2	Y
19		1	1	1	3	N
20		2			2	N
21	2	4	1		7	Y
22*	1		1		2	N
23	3	4			7	Y
24	1	1			2	Y
25	4	4			8	Y
26	2*				2	N
27		3			3	Y
28			1		1	Y
29		5			5	N
30	2	2			4	N
31		1	1		2	Y
32		2			2	N
Total Stem Counts	26	70	16	13		

*- Stems under 1" are not considered VELB habitat

Delineation of Waters of the United States

6201 Horseshoe Bar Road ±63-Acre Site
Placer County, California

Prepared for: U.S. Army Corps of Engineers

Contracted By: Tulip Asset LLC

March 27, 2014

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1.0 EXECUTIVE SUMMARY

This report presents the results of a delineation of the waters of the United States on the 6201 Horseshoe Bar Road site that may be subject to Federal jurisdiction and regulation under Section 404 of the Clean Water Act. A total of 1.13 acres of waters of the U.S., comprised of 0.15-acre of depressional seasonal wetlands, 0.53 acre of depressional seasonal wetland, 0.01 acre of intermittent drainage, 0.44 acre of perennial drainage, and 0.01 acre of pond were delineated on the site.

2.0 INTRODUCTION

The purpose of this document is to present the results of a formal delineation of jurisdictional waters of the United States, including wetlands, on the ±63-acre 6201 Horseshoe Bar Road site. The site is located within the Town of Loomis, California in Placer County (**Figure 1**).

This report presents the results of Foothill Associates' review of available literature, aerial photographs, soil surveys (**Figure 2**), and fieldwork on the site. These results are summarized to depict jurisdictional waters of the United States following the technical guidelines provided in the 1987 *U.S. Army Corps of Engineers Wetlands Delineation Manual* and the *Arid West Regional Supplement* for identifying wetlands and distinguishing them from aquatic habitats and other nonwetlands. The jurisdictional boundaries for other waters of the United States were identified based on the presence of an ordinary high-water mark (OHWM) as defined in 33 CFR 328.3(e).

The delineation methodology is described in this report, followed by the results of the delineation. Details regarding soils, topography, hydrology, and vegetation are summarized and routine wetland determination data forms are provided in **Appendix B**. A detailed delineation map illustrates waters of the U.S. on the site (**Figure 3**).

3.0 REGULATORY BACKGROUND

The U.S. Army Corps of Engineers (Corps) regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA).

“Discharges of fill material” is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Section 404 of the Clean Water Act requires approval prior to discharging dredged or fill material into the waters of the United States. Typical activities requiring Section 404 permits are:

- Depositing of fill or dredged material in waters of the U.S. or adjacent wetlands;
- Site development fill for residential, commercial, or recreational developments;
- Construction of revetments, groins, breakwaters, levees, dams, dikes, and weirs; and
- Placement of rip-rap and road fills.

Section 10 of the Rivers and Harbors Act of 1899 requires approval prior to the accomplishment of any work in or over navigable waters of the United States, or which affects the course, location, condition or capacity of such waters. Typical activities requiring Section 10 permits are:

- Construction of piers, wharves, bulkheads, dolphins, marinas, ramps, floats, intake structures, and cable or pipeline crossings; and
- Dredging and excavation.

Any person, firm, or agency (including federal, state, and local government agencies) planning to work in navigable waters of the United States, or dump or place dredged or fill material in waters of the United States, must first obtain a permit from the Corps. Permits, licenses, variances, or similar authorization may also be required by other federal, state and local statutes.

3.1 Waters of the United States

33 C.F.R. Section 328.3 provides that “waters of the United States” include all waters that are currently used, or were used in the past or are susceptible to use in interstate commerce, all interstate waters and wetlands, and all intrastate lakes, rivers or streams which could affect interstate commerce. In addition, this regulation provides jurisdiction over waters that are tributary to these waters, and “wetlands” adjacent to them. Section 10 and/or Section 404 permits are required for construction activities in these waters. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of water is present. Methods for delineating wetlands and non-tidal waters are described below.

Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit positive indicators of three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.

The lateral regulatory extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

3.2 The SWANCC Decision

The *Solid Waste Agency of Northern Cook County v. the U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), is more commonly referred to as the SWANCC decision. SWANCC involved a challenge to CWA jurisdiction over certain isolated, intrastate, non-navigable ponds in Illinois that formerly had been gravel mine pits, but which, over time, provided habitat for migratory birds. Although these ponds served as migratory bird habitat, they were non-navigable and isolated from the tributary system of other waters regulated under the CWA. In SWANCC, the Supreme Court held that the Army Corps of Engineers had exceeded its authority in asserting CWA jurisdiction pursuant to § 404(a) over the waters at issue based on their use as habitat for migratory birds, pursuant to preamble language, commonly referred to as the Migratory Bird Rule [51 Fed. Reg. 41217 (1986)].

SWANCC squarely eliminates CWA jurisdiction over isolated waters that are intrastate and non-navigable, where the sole basis for asserting CWA jurisdiction is the actual or potential use of the waters as habitat for migratory birds that cross state lines in their migrations. CWA jurisdiction extends to waters, including wetlands, which are adjacent to navigable waters pursuant to the Supreme Court holding in *Riverside Bayview Homes*, which was endorsed in SWANCC as controlling law. Corps and EPA regulations currently define the term adjacent as “bordering, contiguous, or neighboring” [33 C.F.R.

§ 328.3(b)]. The case law on the precise scope of federal CWA jurisdiction since SWANCC is still developing.

4.0 METHODOLOGY

4.1 Site-Specific References

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this delineation are listed in **Section 7.0**. Pertinent site-specific reports and general references utilized concurrent with the delineation include the following:

- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson manual: vascular plants of California*, second edition. University of California, Berkeley;
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS;
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- NRCS. April 2012. *Hydric Soils List for Placer County, California*. U.S. Department of Agriculture;
- U.S. Geological Survey (USGS). 1967. Photorevised 1981. *Rocklin, California* 7.5-minute series topographic quadrangle. United States Department of the Interior; and
- USGS. May 2002. *Sacramento Urban 0.3-meter DOQQ Imagery*. U.S. Department of the Interior.

4.2 Research and Field Methodology

This delineation utilized the Corps' 1987 three-parameter (vegetation, hydrology, and soils) methodology to delineate jurisdictional waters of the U.S., focusing specifically on jurisdictional wetlands. This methodology requires the collection of data on soils, vegetation, and hydrology at several locations to establish the jurisdictional boundary of wetlands. Additional methods to identify and delineate other waters of the U.S. (e.g.,

streams, drainages, lakes) were used as applicable. The method typically used for delineation of non-wetland waters of the U.S. is the delineation of the OHWM.

A review of current aerial photographs, topographic maps, and soils survey data was conducted before a field review of the delineation site. The initial delineation was conducted on August 2, 7, 8, 29 and September 20 of 2006. The 2006 delineation was updated with additional field surveys on November 19 and 20, 2013. Biologists visually inspected the entire site and collected representative data at points within potential wetland areas and corresponding uplands. The location of each data point is depicted in **Figure 3** and corresponding routine wetland determination data forms are provided in **Appendix B**.

4.3 GPS Data Integration

Boundaries of aquatic features within the site were surveyed and mapped with a Trimble GeoXT Global Positioning System (GPS) hand-held unit. This is a mapping-grade GPS unit capable of real-time differential correction and sub-meter accuracy. The GPS data were downloaded from the unit and differentially corrected utilizing Trimble Pathfinder Office software and appropriate base station data, and then converted to ESRI[®] shape file format. Data are typically exported to the Geographic Information System (GIS) software in the State Plane coordinate system (NAD 83) with units as "survey feet." Within the GIS, data are edited and linear features are built into polygons using recorded width information. All wetland shape files are merged to create a single wetland file with calculated acreages. These results are presented in **Figure 3**.

5.0 RESULTS

5.1 Study Area Description, Land Use

5.1.1 Study Area Location

The ±63-acre site is located in the Town of Loomis, California, immediately south and east of Interstate 80 and is bisected by Horseshoe Bar Road. The site is bounded by Interstate 80 on the north, Secret Ravine and Brace Road on the south, and Betty Road to the west. The site is also bound on the west by rural residences and agricultural lands and on the east by rural residences, agricultural lands, and oak woodland. The site is located within Section 10 of Township 11 North, Range 7 East on the *Rocklin, California* USGS 7.5-minute quadrangle map (**Figure 1**).

5.1.2 Land Use

The site primarily consists of agricultural land, portions of which are used for horse and cattle grazing. There are a few structures associated with keeping livestock on a portion of the site immediately north of Horseshoe Bar Road. Local land uses surrounding the site consist of agriculture (including grazing), rural residential development, and commercial development along Brace Road and on the north side of Interstate.

5.1.3 Site History and Description

A review of an archaeological report indicates the site has been utilized for livestock grazing, a rural residence, and limited agricultural activities (Jensen, 2006). Portions of the southern half of the site west of Horseshoe Bar Road have been disced and are currently used as grazed annual grassland. A few sporadic fruit trees occur within the oak woodland west of Horseshoe Bar Road.

5.2 Physical Features

5.2.1 Soils

The Natural Resources Conservation Service (NRCS) has mapped three soil units on the site (**Figure 2**). The soil units that occur on the site include the following: **Andregg coarse sandy loam, 2 to 9 percent slopes**; **Xerorthents, cut and fill**; and **Xerorthents, Placer areas**. General characteristics associated with these soils types are described below.

- **Andregg coarse sandy loam, 2 to 9 percent slopes:** This moderately deep and well-drained soil is found on low hills in the Loomis Basin between 200 and 1,000 feet above mean sea level (MSL). Andregg soils formed in material weathered from coarse grained acid igneous rocks, mainly granodiorite. Permeability in this soil is moderately rapid and available water capacity is low.

Natural vegetation includes annual grasses, herbaceous species, blue oak (*Quercus douglasii*), live oak (*Quercus wislizenii*), and scattered pines (*Pinus* spp.). This soil is used mainly for rangeland, while very limited areas are used for pasture or orchards. The hydric soils list for Placer County identifies one unnamed hydric inclusion located within drainageways of this soil type.

- **Xerorthents, cut and fill:** This soil unit consists of mixed soil material that no longer contains discernable horizons. Cut and fill areas are typically well-drained and surface runoff is very rapid. Permeability and available water capacity are variable. These areas are typically used for highways and urban development. The hydric soils list for Placer County does not identify hydric components or inclusions occurring within this soil type.
- **Xerorthents, Placer areas:** This soil unit consists of stony, cobbly, and gravelly materials adjacent to streams that have been placer mined. The soil material is derived from a mixture of rocks. Permeability, surface runoff, drainage, and available water capacity are variable. Natural vegetation typically includes annual grasses, oaks (*Quercus* spp.), willows (*Salix* spp.), alders (*Alnus* spp.), and cottonwoods (*Populus* spp.). These soils have some value for grazing and watering livestock. The hydric soils list for Placer County identifies one unnamed hydric inclusion located within drainageways of this soil type.

5.2.2 Topography

Mildly undulating topography and moderate inclines typify the site and the surrounding area. The topography of the western portions of the site is dominated by a series of more or less rolling hills and intervening low lying areas between them. Generally, the hills and drainageways are oriented in a northeast to southwest alignment. Slopes throughout the site range from approximately two to 50 percent. Elevation ranges from approximately 340 and 370 feet above MSL.

5.2.3 Regional Hydrology

The site is located within the Loomis Basin east of Interstate 80 and spans Horseshoe Bar Road. The Loomis Basin is located at the base of the Sierra-Nevada Mountains and lies between “intermediate” and “semi-Mediterranean” climate zones. The Loomis area typically has a wet season, which occurs from late fall through early spring, and a dry season, which occurs from late spring through early fall (PPGN 2006). Historically, several drainages in this area have been dredged in placer mining operations, which have resulted in the alteration of many waterways.

5.2.4 Site-Specific Hydrology

Portions of the site are within the historic 100-year floodplain of Secret Ravine (FEMA 1998). Annual average precipitation in the Loomis area is approximately 39 inches (PPGN 2006). Hydrologic features identified and mapped within the site include depressional seasonal wetlands, riverine seasonal wetlands, and perennial drainages

(Figure 3). Diagnostic characteristics of the features mapped on the site are defined and discussed in Section 5.4.

The majority of the seasonal wetlands occur within the southern portion of the oak woodland south of Horseshoe Bar Road. The depressional and riverine seasonal wetlands on the southern half of the site within the oak woodland are predominantly charged by the natural sheeting effect of surface water conducted by the surrounding upland topography, as well as direct rainfall. The riverine seasonal wetland identified as feature #6 is supplied water from an offsite ditch via a culvert. Once the depressional and riverine seasonal wetlands within the oak woodland area reach maximum inundation capacity, water flow likely continues toward Secret Ravine via overland sheet flow.

A perennial drainage flows across the northeastern portion of the site into Secret Ravine offsite. The eastern branch of the perennial drainage connects to a pond, of which a portion is onsite. Secret Ravine enters the western half of the site then continues to flow southeast along the southern property boundary as it meanders across the property boundary until exiting the site.

5.3 Vegetation

Three dominant vegetation assemblages occur on the site including: annual grassland, oak woodland, and Great Valley mixed riparian forest. A detailed description of each of vegetation type is described below.

5.3.1 Annual Grassland

Annual grassland is characterized primarily by an assemblage of non-native grasses and forbs. This vegetation community is found in the western half of the property adjacent to Interstate 80. Much of the vegetation in this community is common to the Central Valley. Dominant grass species within this community consist of soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), Italian rye grass (*Festuca perennis*), medusahead (*Elymus caput-medusae*), and little quaking grass (*Briza minor*). Other herbaceous vegetation present were California poppy (*Eschscholzia californica*), clustered dock (*Rumex conglomerates*), rose clover (*Trifolium hirtum*), tarweed (*Centromadia pungens*), star thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), vetch (*Astragalus* spp.), bindweed (*Convolvulus arvensis*), elegant brodiaea (*Brodiaea elegans*), and short-podded mustard (*Hirschfeldia incana*).

5.3.2 Oak Woodland

This community covers primarily the southern portion of the site adjacent to Secret Ravine. The overstory of this community is dominated by interior live oaks with scattered valley oaks (*Quercus lobata*), blue oaks, and foothill pines (*Pinus sabiniana*). The understory contains scattered toyon (*Adenostoma fasciculata*), California buckeye (*Aesculus californica*), coyotebrush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), whitethorn ceanothus (*Ceanothus cordulatus*), and poison oak (*Toxicodendron diversilobum*). Several blue elderberry shrubs (*Sambucus mexicana*) were found within

the oak woodland as well. Naturalized orchard trees within the oak woodland habitat included apple (*Malus* spp.), pear (*Pyrus* spp.), and common fig (*Ficus carica*).

5.3.3 Great Valley Mixed Riparian Forest

This community is associated primarily with the margins of Secret Ravine on the southern and eastern portions of the site. The overstory of this community contains willows, Fremont's cottonwood (*Populus fremontii*), and white alders (*Alnus rhombifolia*). The shrub layer contains blue elderberry, Himalayan blackberry (*Rubus armeniacus*), and poison oak.

5.4 Classification of Waters of the United States

Jurisdictional waters of the U.S. are classified into multiple types based on topography, edaphics (soils), vegetation, and hydrologic regime. Primarily, the Corps establishes two distinctions: wetland and nonwetland waters of the U.S. Nonwetland waters are commonly referred to as other waters of the U.S.

Potential jurisdictional wetland types mapped within the site include the following: depressional seasonal wetland and riverine seasonal wetland. Potential other waters of the U.S. mapped within the site include: intermittent drainage, pond, and perennial drainages. The characteristics of these mapped features are described below.

5.4.1 Depressional Seasonal Wetland

A total of **0.15**-acre of depressional seasonal wetland has been delineated within the site. Depressional seasonal wetlands exhibit a hydrologic regime dominated by saturation, rather than inundation. Plant species in depressional seasonal wetlands are adapted to withstand short periods of saturation or saturated soils conditions but will not withstand prolonged periods of inundation, as is common in vernal pools. Several hydrophytic and water tolerant plant species were found within the depressional seasonal wetland on the site including tall flatsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), rabbitsfoot grass (*Polypogon monspeliensis*), Italian rye grass, Himalayan blackberry, and California blackberry. The majority of depressional seasonal wetlands are located in the southern portion of the western half of the site near Secret Ravine. In addition, one depressional season wetland is located next to Interstate 80 at the northwestern corner of the western half of the site, and another is located in the northwest portion of the eastern half of the site (**Figure 3**).

5.4.2 Riverine Seasonal Wetland

A total of **0.53**-acre of riverine seasonal wetland has been delineated within the site. Riverine seasonal wetlands are defined by a hydrologic regime dominated by unidirectional flow of water. Riverine seasonal wetlands typically occur in topographic folds or swales and represent natural drainages that convey sufficient water to support wetland vegetation. They typically convey water during and shortly after storm events. Riverine seasonal wetlands usually have a moderately defined bed and bank. As in

depressional seasonal wetlands, plant species found within riverine seasonal wetlands are typically adapted to a hydrologic regime dominated by saturation rather than inundation. Plant species observed within these features on the site include cocklebur (*Xanthium strumarium*), spearmint (*Mentha spicata*), rabbitsfoot grass, common spikerush (*Eleocharis macrostachya*), bog yellow cress (*Rorippa palustris*), willows, valley oaks, and tall flatsedge. Riverine seasonal wetlands are located in the southern portion of the site (**Figure 3**).

5.4.3 Intermittent Drainage

A total of **0.01**-acre of intermittent drainage has been delineated within the site (**Figure 3**). Intermittent drainages, as in ephemeral drainages, are features that do not meet the three-parameter criteria for vegetation, hydrology and soils, but do convey water and exhibit an ordinary high water mark. Water flows within intermittent drainages are fed primarily by a seasonally perched groundwater table and supplemented by precipitation and stormwater runoff. After the initial onset of rains, these features have persistent flows throughout and past the end of the rainy season. Typically, these features exhibit a defined bed and bank and show signs of scouring as a result of rapid flow events. The bed of intermittent drainages consists of cobble often interrupted with bedrock. Hydrophytic vegetation may occur in association with intermittent drainages. The intermittent drainage on the site flows from the riverine seasonal wetland in the southwest corner of the project towards Secret Ravine.

5.4.4 Perennial Drainage

A total of **0.44**-acre of perennial drainage has been delineated within the site. Perennial drainages are features that may not meet the three-parameter criteria for vegetation, hydrology, and soils but do convey water and exhibit an ordinary high water mark. Perennial drainages generally convey unidirectional water flows throughout the entire year. Perennial drainages typically consist of a channel, bed, and bank and are mostly devoid of vegetation due to the scouring effect of flowing water. Perennial drainages are often bordered by wetland vegetation communities of various composition and cover depending on flow rates, duration of flows and soil types. Plants observed growing on the banks of the perennial drainage include cottonwood, white alder, valley oak, willow, California and Himalayan blackberry, and in certain sections, cattails (*Typha* sp.). Portions of the perennial drainages that occur on the site are located along the southern boundary of the western half of the site and crossing the eastern portion of the site (**Figure 3**).

5.4.5 Pond

A total of **0.01**-acre of pond has been delineated in the northeast corner of the site (**Figure 3**). The pond on the site is charged by the perennial drainage that traverses the central portion of the northern half of the site and flow east towards the west side of the pond. Ponds are often a result of the placement of a dam within jurisdictional waters, as is the suspected origin of the feature onsite. According to the supply of water from a perennial drainage that is likely jurisdictional, the close proximity of the pond to Secret

Ravine, and likelihood that pond flows into Secret Ravine; this feature would likely be subject to Corps jurisdiction.

6.0 CONCLUSIONS

Application of routine wetland delineation techniques revealed the presence of features that appear to conform to the definition of waters of the U.S pursuant to Section 404 of the Federal Clean Water Act. Potential jurisdictional wetland types mapped within the site include depressional seasonal wetland and riverine seasonal wetland. Other waters of the U.S. delineated within the site include perennial drainage, intermittent drainage, and a pond. In addition, portions of the site nearest the perennial drainage are located within the 100-year floodplain.

The final determination of the extent of Corps' jurisdiction on the property pursuant to Section 404 of the Federal Clean Water Act will depend on the results of field verification by the Corps. Areas deemed jurisdictional will then be subject to the regulatory requirements of the federal Clean Water Act including permitting and mitigation, as required.

Table 1 below provides acreage per class and summarizes the total acreage of wetlands and waters on the site.

Table 1 — Waters of the U.S.: Acreage According to Feature Classification

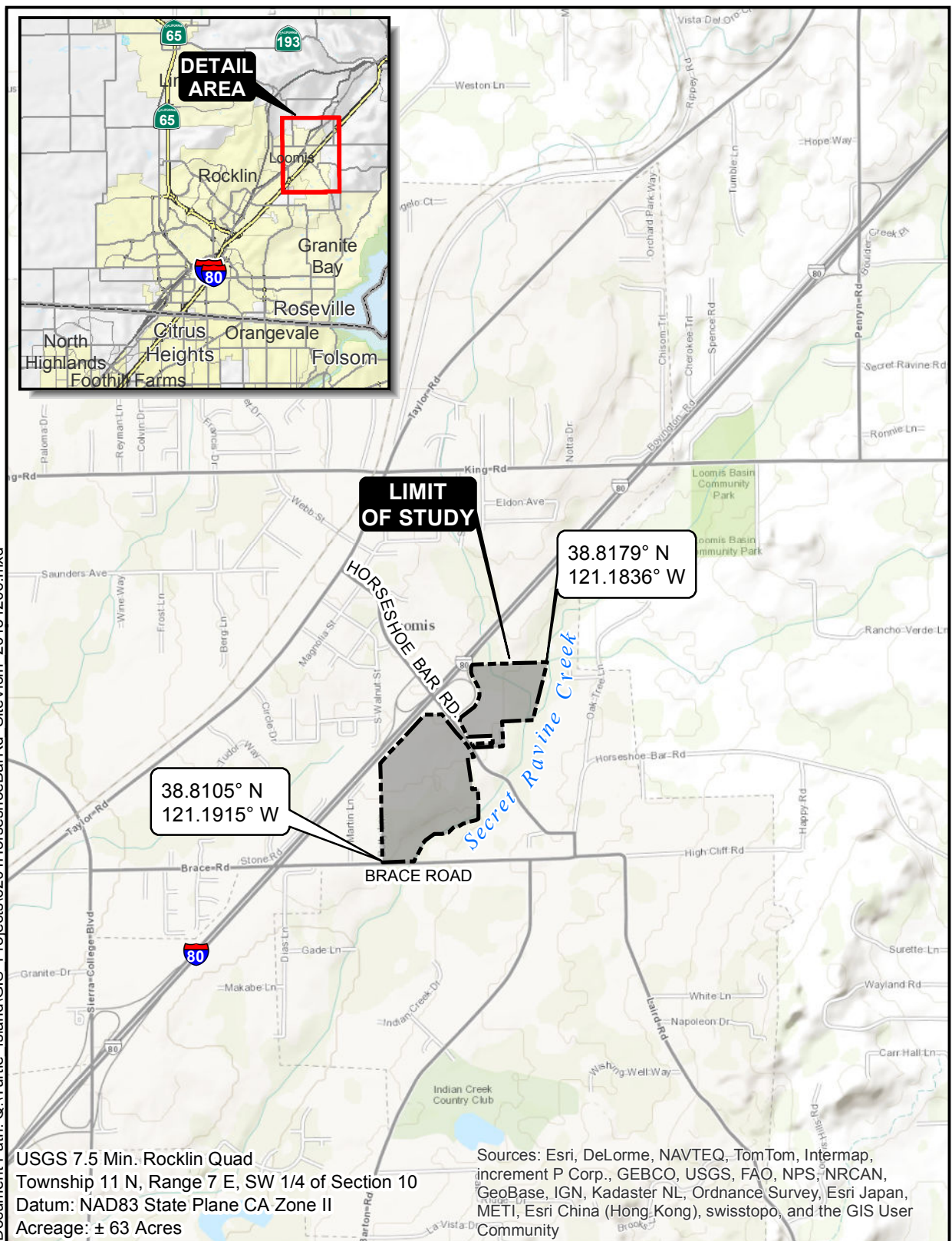
Classification	Total Acreage
Depressional Seasonal Wetland	0.15
Riverine Seasonal Wetland	0.53
Intermittent Drainage	0.01
Perennial Drainage	0.44
Pond	0.01
TOTAL	1.13

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SITE AND VICINITY

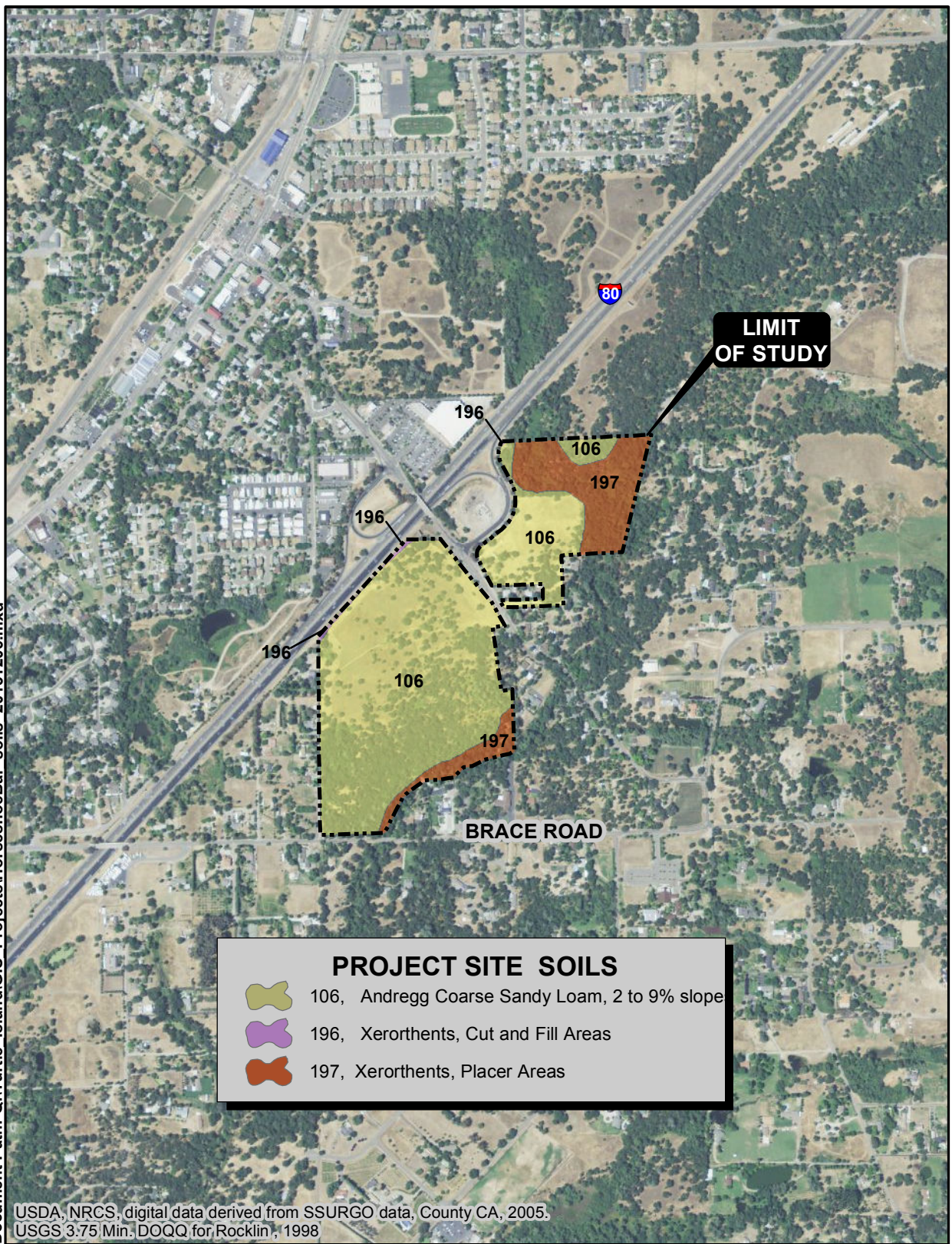


0 750 1500
SCALE IN FEET

Drawn By: MUB
Date: 12/06/2013

FIGURE 1

Document Path: Q:\Turtle Island\GIS Projects\HorseshoeBar soils 20131206.mxd



SOILS

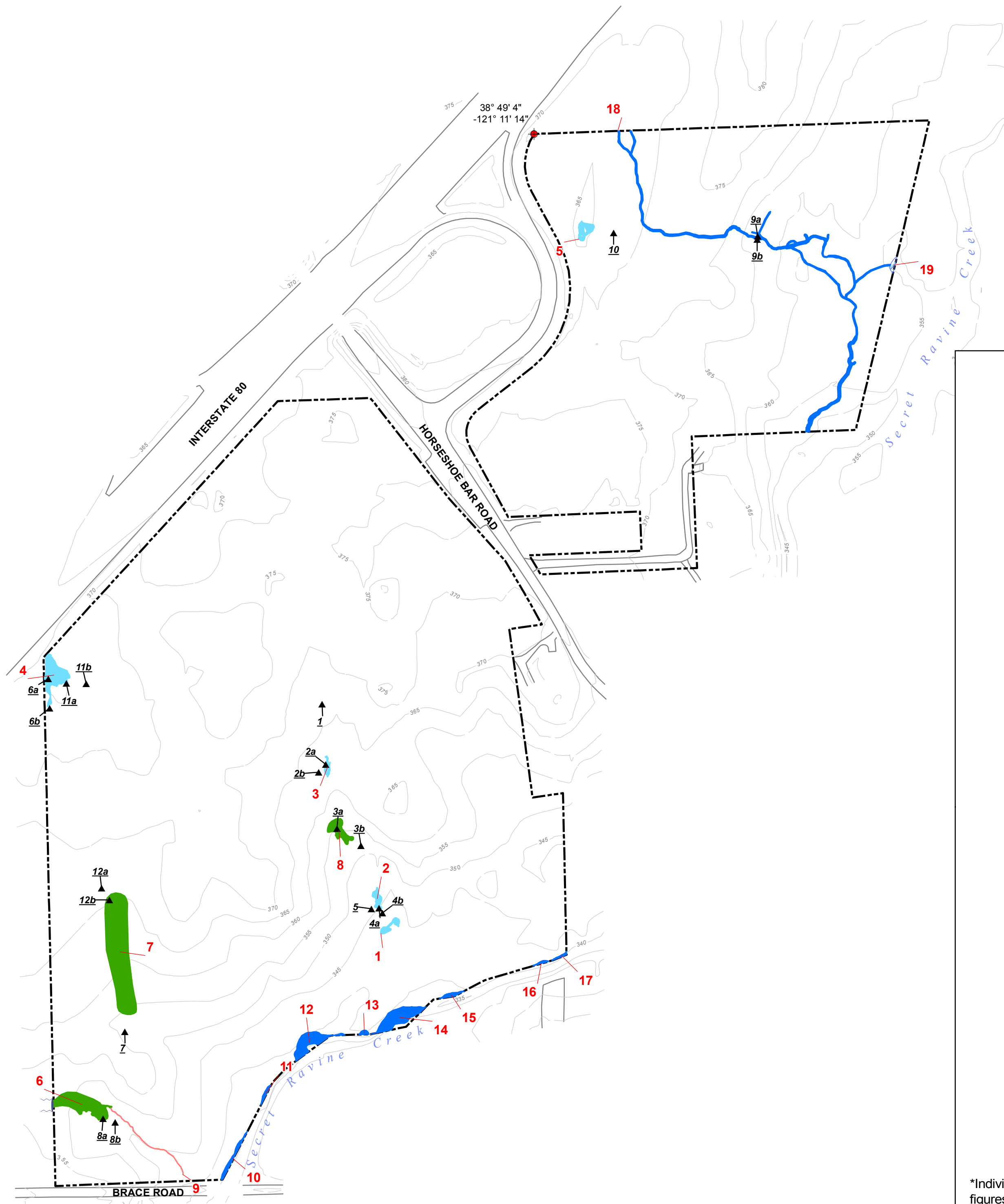


0 500 1000
SCALE IN FEET

Drawn By: MUB
Date: 12/06/2013

FIGURE 2

Document Path: Q:\Turtle_Island\GIS Projects\Wetland Delineation_TurtleIsland_20131121.mxd



INDIVIDUAL WOUS FEATURE ACREAGES

DEPRESSIONAL SEASONAL WETLAND

Label	Acres*
1	0.016
2	0.017
3	0.010
4	0.081
5	0.026
SUBTOTAL:	0.150

RIVERINE SEASONAL WETLAND

Label	Acres*
6	0.119
7	0.366
8	0.043
SUBTOTAL:	0.528

INTERMITTENT DRAINAGE

Label	Acres*
9	0.006
SUBTOTAL:	0.006

PERENIAL DRAINAGE

Label	Acres*
10	0.019
11	0.006
12	0.066
13	0.005
14	0.084
15	0.009
16	0.004
17	0.004
18	0.244
SUBTOTAL:	0.441

POND

Label	Acres*
19	0.008
SUBTOTAL:	0.008

TOTAL ** | 1.13

*Individual acreage reported to 3 significant figures.

**Based on sum of subtotals at 2 significant figures.

WATERS OF THE U.S.	
CLASSIFICATION	ACREAGE
Depressional Seasonal Wetland (DSW)	0.15
Riverine Seasonal Wetland (RSW)	0.53
Intermittent Drainage (ID)	0.01
Perennial Drainage (PD)	0.44
Pond	0.01
TOTAL	1.13

OTHER FEATURES

- Data Points
- Culvert
- Project Boundary

NOTES

- Waters of the U.S. are subject to U.S. Army Corps of Engineers verification.
- Digital base data provided by Burrell Consulting. Contour interval is 5 feet.
- The Hydrologic Unit Code for this site is 18020111.
- This delineation utilizes the Corps' 1987 three-parameter methodology and Rapanos guidbook 2007 and the Arid West Supplement to delineate jurisdictional waters of the U.S.
- Waters of the U.S. were mapped using a Trimble Global Positioning System (GPS) or by using GPS reference points and aerial photo interpretation.

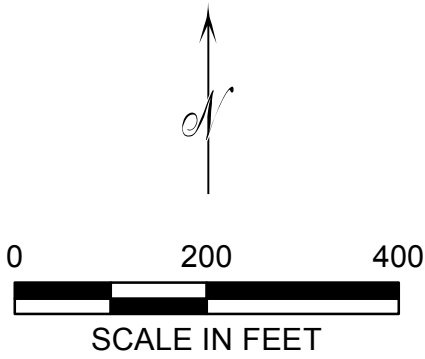


FIGURE 3

6201 Horseshoe Bar Road

DELINEATED WATERS OF THE U.S.



FOOTHILL ASSOCIATES

ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

© 2014

DATE: 05/13/2008
REVISION: 12/10/2013

DRAWN BY: MUB
DELINEATED BY: DWB, ELF, EMC, JCH, KCV

Appendix A — Contact Information

Client Contact Information:

Steve McCullagh
Oakmont Senior Living LLC
220 Concourse Boulevard
Santa Rosa, CA 95403

Delineation Conducted by:

Meredith Branstad, Biologist
Kirk Vail, Biologist
Foothill Associates
590 Menlo Drive, Suite 5
Rocklin, CA 95765

Appendix B — Routine Wetland Determination Data Forms

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Elaine Flock</u> <u>Eric Christensen</u>	Date: <u>08/02/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>UPL</u> Transect ID: <u>1</u> Plot ID: <u>--</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Bromus hordeaceus (30%)</u>	<u>HERB</u>	<u>FACU-</u>	9. _____	_____	_____
2. <u>Torilis arvensis (30%)</u>	<u>HERB</u>	<u>UPL</u>	10. _____	_____	_____
3. <u>Rubus discolor (40%)</u>	<u>SHRUB</u>	<u>FACW*</u>	11. _____	_____	_____
4. <u>Quercus douglassi (10%)</u>	<u>TREE</u>	<u>UPL</u>	12. _____	_____	_____
5. <u>Quercus lobata (10%)</u>	<u>TREE</u>	<u>FAC*</u>	13. _____	_____	_____
6. <u>Baccharis salicifolia (10%)</u>	<u>SHRUB</u>	<u>FACW</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 40 %

Remarks: Insufficient hydrophytic vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u> N/A </u> (in.) Depth to Free Water in Pit: <u> N/A </u> (in.) Depth to Saturated Soil: <u> N/A </u> (in.)	
Remarks: <u>Insufficient hydrology indicators. Other: topographic map.</u>	

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>				Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	
Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 3/2	N/A	N/A	gravelly clay loam
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks: <u>Insufficient hydric soil indicators. Unable to dig past 6 inches due to dry, rocky soils. Soil at data point similar, but not an exact match of mapped soils.</u>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
Remarks: <u>Does not meet all three wetland parameters; upland.</u>	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Elaine Flock</u> <u>Eric Christensen</u>	Date: <u>08/02/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>DSW</u> Transect ID: <u>2</u> Plot ID: <u>a</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Cyperus eragrostis (55%)</u>	<u>HERB</u>	<u>FACW</u>	9. <u>Bromus hordeaceus (tr)</u>	<u>HERB</u>	<u>FACU-</u>
2. <u>Rubus discolor (5%)</u>	<u>SHRUB</u>	<u>FACW*</u>	10. <u>Lolium perenne (tr)</u>	<u>HERB</u>	<u>FAC*</u>
3. _____	_____	_____	11. <u>Polypogon monspeliensis (10%)</u>	<u>HERB</u>	<u>FACW+</u>
4. _____	_____	_____	12. <u>Cirsium sp. (15%)</u>	<u>HERB</u>	_____
5. _____	_____	_____	13. <u>Torilis arvensis (10%)</u>	<u>HERB</u>	<u>UPL</u>
6. _____	_____	_____	14. <u>Rumex crispus (5%)</u>	<u>HERB</u>	<u>FACW-</u>
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100 %

Remarks: Dominance of hydrophytic vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Remarks: <u>Sufficient secondary hydrology indicators. Other: topographic map.</u>

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>				Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/2	2.5YR 3/6	few/fine/prom	sandy clay loam

Hydric Soil Indicators:	
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)

Remarks: Sufficient hydric soil indicators - low chroma soil with mottles. Unable to dig past 10 inches due to dry, rocky soils. Soil at data point similar, but not an exact match of mapped soils.
--

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
--	--

Remarks: Meets all three wetland parameters; depressional seasonal wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Elaine Flock</u> <u>Eric Christensen</u>	Date: <u>08/02/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>UPL</u> Transect ID: <u>2</u> Plot ID: <u>b</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Bromus diandrus (40%)</u>	<u>HERB</u>	<u>NI</u>	9. <u>Rumex crispus (tr)</u>	<u>HERB</u>	<u>FACW-</u>
2. <u>Torilis arvensis (30%)</u>	<u>HERB</u>	<u>UPL</u>	10. _____	_____	_____
3. <u>Rubus discolor (40%)</u>	<u>SHRUB</u>	<u>FACW*</u>	11. _____	_____	_____
4. <u>Quercus wislizenii (70%)</u>	<u>TREE</u>	<u>UPL</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 25 %

Remarks: Insufficient hydrophytic vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Remarks: <u>Insufficient hydrology indicators. Other: topographic map.</u>

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>				Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	A	10YR 3/3	7.5YR 4/6	few/fine/prom	sandy clay loam

Hydric Soil Indicators:	
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)

Remarks: <u>Insufficient hydric soil indicators. Unable to dig past 8 inches due to dry, rocky soils.</u>

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
--	--

Remarks: <u>Does not meet all three wetland parameters; upland.</u>

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Elaine Flock</u> <u>Eric Christensen</u>	Date: <u>08/02/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>RSW</u> Transect ID: <u>3</u> Plot ID: <u>a</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Lolium perenne (40%)</u>	<u>HERB</u>	<u>FAC*</u>	9. <u>Bromus hordeaceus (tr)</u>	<u>HERB</u>	<u>FACU-</u>
2. <u>Rubus discolor (30%)</u>	<u>SHRUB</u>	<u>FACW*</u>	10. <u>Cyperus eragrostis (5%)</u>	<u>HERB</u>	<u>FACW</u>
3. <u>Salix sp. (20%)</u>	<u>TREE</u>		11. <u>Cirsium sp. (10%)</u>	<u>HERB</u>	
4. <u>Quercus lobata (20%)</u>	<u>TREE</u>	<u>FAC</u>	12. <u>Quercus wislizenii (5%)</u>	<u>TREE</u>	<u>UPL</u>
5. <u>Toxocodendron diversil. (10%)</u>	<u>SHRUB</u>	<u>UPL</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	80	%
---	----	---

Remarks: Dominance of hydrophytic vegetation. Assuming Salix species is FAC or greater based on hydrology and associate plant species.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	
Remarks: <u>Sufficient hydrology indicators. Satisfies FAC-neutral test. Other: topographic map.</u>	

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>					Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>					Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:		Matrix Color	Mottle Colors	Mottle Abundance/	Texture, Concretions,
Depth	Horizon	(Munsell Moist)	(Munsell Moist)	Size/Contrast	Structure, etc.
(inches)					
0-6	A	10YR 2/1	N/A	N/A	sandy clay loam
6-10	A	10YR 4/1	7.5YR 5/6	comm/med/prom	sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
---	--

Remarks: Sufficient hydric soil indicators - low chroma soil with mottles. Unable to dig past 10 inches due to dry, rocky soils. Soil at data point similar, but not an exact match of mapped soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
--	--

Remarks: Meets all three wetland parameters; riverine seasonal wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Elaine Flock</u> <u>Eric Christensen</u>	Date: <u>08/02/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>UPL</u> Transect ID: <u>3</u> Plot ID: <u>b</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Cirsium sp. (50%)</u>	<u>HERB</u>		9. _____		
2. <u>Torilis arvensis (20%)</u>	<u>HERB</u>	<u>UPL</u>	10. _____		
3. <u>Rubus discolor (20%)</u>	<u>SHRUB</u>	<u>FACW*</u>	11. _____		
4. <u>Quercus wislizenii (10%)</u>	<u>TREE</u>	<u>UPL</u>	12. _____		
5. <u>Salix sp. (10%)</u>	<u>TREE</u>		13. _____		
6. <u>Toxocodendron divers. (10%)</u>	<u>SHRUB</u>	<u>UPL</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 40 %

Remarks: Insufficient hydrophytic vegetation. Cirsium species is likely vulgare, which is FACU. Assuming Salix species is FAC or greater.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	
Remarks: <u>Insufficient hydrology indicators. Does not satisfy FAC-neutral test. Other: topographic map.</u>	

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>				Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
Depth (inches)	Horizon				
0-8	A	10YR 2/1	N/A	N/A	sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Sufficient hydric soil indicators - low chroma matrix. Unable to dig past 8 inches due to dry, rocky soils. Soil at data point similar, but not an exact match of mapped soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
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Remarks: Does not meet all three wetland parameters; upland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Elaine Flock</u> <u>Eric Christensen</u>	Date: <u>08/02/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>DSW</u> Transect ID: <u>4</u> Plot ID: <u>a</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Lolium perenne (80%)</u>	<u>HERB</u>	<u>FAC*</u>	9. <u>Hordeum marinum (10%)</u>	<u>HERB</u>	<u>FAC</u>
2. <u>Rubus discolor (10%)</u>	<u>SHRUB</u>	<u>FACW*</u>	10. <u>Cyperus eragrostis (5%)</u>	<u>HERB</u>	<u>FACW</u>
3. <u>Quercus lobata (15%)</u>	<u>TREE</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Quercus wislizenii (10%)</u>	<u>TREE</u>	<u>UPL</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 75 %

Remarks: Dominance of hydrophytic vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Remarks: <u>Sufficient hydrology indicators. Satisfies FAC-neutral test. Other: topographic map. Cracks in soil indicate water pools within feature. Feature is depressional in shape. Water appears to flow into attached riverine seasonal wetland.</u>	

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>				Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
Depth (inches)	Horizon				
0-10	A	10YR 3/1	7.5YR 4/6	comm/med/prom	sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input checked="" type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Sufficient hydric soil indicators - low chroma soil with mottles. Also observed soft manganese concretions. Unable to dig past 10 inches due to dry, rocky soils. Soil at data point similar, but not an exact match of mapped soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
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Remarks: Meets all three wetland parameters; depressional seasonal wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Elaine Flock</u> <u>Eric Christensen</u>	Date: <u>08/02/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>UPL</u> Transect ID: <u>4</u> Plot ID: <u>b</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Torilis arvensis (40%)</u>	<u>HERB</u>	<u>UPL</u>	9. <u>Rumex crispus (tr)</u>	<u>HERB</u>	<u>FACW-</u>
2. <u>Rubus discolor (20%)</u>	<u>SHRUB</u>	<u>FACW*</u>	10. <u>Quercus lobata (5%)</u>	<u>TREE</u>	<u>FAC</u>
3. <u>Quercus wislizenii (30%)</u>	<u>TREE</u>	<u>UPL</u>	11. _____	_____	_____
4. <u>Bromus diandrus (20%)</u>	<u>HERB</u>	<u>NI</u>	12. _____	_____	_____
5. <u>Cirsium sp. (20%)</u>	<u>HERB</u>	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 20 %

Remarks: Insufficient hydrophytic vegetation. Assuming Cirsium species is vulgare which is FACU.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Remarks: <u>Insufficient hydrology indicators. Does not pass FAC-neutral test. Other: topographic map.</u>

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>				Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
Depth (inches)	Horizon				
0-8	A	10YR 3/2	7.5YR 5/8	comm/med/prom	sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
--	--

Remarks: Sufficient hydric soil indicators - low chroma soil with mottles. Unable to dig past 8 inches due to dry, rocky soils. Soil at data point similar, but not an exact match of mapped soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
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Remarks: Does not meet all three wetland parameters; upland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Elaine Flock</u> <u>Eric Christensen</u>	Date: <u>08/02/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>RSW</u> Transect ID: <u>5</u> Plot ID: <u>--</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Cyperus eragrostis (40%)</u>	<u>HERB</u>	<u>FACW</u>	9. <u>Unknown grass (10%)</u>	<u>HERB</u>	
2. <u>Rubus discolor (10%)</u>	<u>SHRUB</u>	<u>FACW*</u>	10. _____		
3. <u>Eleocharis macrostachya (12%)</u>	<u>HERB</u>	<u>OBL</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100 %

Remarks: Dominance of hydrophytic vegetation. Bare soil makes up remainder of herbaceous layer.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available <hr/> Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Remarks: <u>Sufficient hydrology indicators. Satisfies FAC-neutral test. Other: topographic map. Cracks in soil indicate water pools within feature. Water appears to flow toward intermittent drainage.</u>	

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>				Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
Depth (inches)	Horizon				
0-10	A	10YR 3/1	7.5YR 4/6	comm/med/prom	sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input checked="" type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
--	---

Remarks: Sufficient hydric soil indicators - low chroma soil with mottles. Also observed soft manganese concretions. Unable to dig past 10 inches due to dry, rocky soils. Soil at data point similar, but not an exact match of mapped soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
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Remarks: Meets all three wetland parameters; riverine seasonal wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>David Bise</u> <u>Eric Christensen</u>	Date: <u>08/07/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>DSW</u> Transect ID: <u>6</u> Plot ID: <u>a</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Cynodon dactylon (65%)</u>	<u>HERB</u>	<u>FAC</u>	9. <u>Cyperus eragrostis (2%)</u>	<u>HERB</u>	<u>FACW</u>
2. <u>Quercus wislizenii (20%)</u>	<u>TREE</u>	<u>UPL</u>	10. <u>Epilobium sp. (1%)</u>	<u>HERB</u>	<u>FACW</u>
3. <u>Rubus discolor (5%)</u>	<u>SHRUB</u>	<u>FACW*</u>	11. <u>Rumex crispus (5%)</u>	<u>HERB</u>	<u>FACW-</u>
4. _____	_____	_____	12. <u>Lolium perenne (3%)</u>	<u>HERB</u>	<u>FAC*</u>
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	66	%
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Remarks: Sufficient hydrophytic vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Sufficient hydrology indicators. Feature is within a topographic depression containing water-stained leaves. Other: topographic map.

SOILS

Map Unit Name (Series and Phase): <u>Xerorthents, cut and fill areas</u>				Drainage Class: <u>Variable</u>	
Taxonomy (Subgroup): _____				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	7.5YR 4/2	5YR 5/6	many/med/prom	sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Sufficient hydric soil indicators- low chroma soils with mottles. Unable to dig past 6 inches due to dry, rocky soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
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Remarks: Meets all three wetland parameters; depressional seasonal wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>David Bise</u> <u>Eric Christensen</u>	Date: <u>08/07/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>UPL</u> Transect ID: <u>6</u> Plot ID: <u>b</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Centaurea solstitialis (50%)</u>	<u>HERB</u>	<u>UPL</u>	9. <u>Bromus hordeaceus (15%)</u>	<u>HERB</u>	<u>FACU-</u>
2. <u>Centromadia pungens (30%)</u>	<u>HERB</u>	<u>FAC</u>	10. <u>Trifolium hirtum (10%)</u>	<u>HERB</u>	<u>UPL</u>
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 50 %

Remarks: Insufficient hydrophytic vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available <hr/> Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Remarks: <u>Insufficient hydrology indicators. Other: topographic map.</u>	

SOILS

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>				Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
Depth (inches)	Horizon				
0-8	A	10YR 3/3	N/A	N/A	sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Insufficient hydric soil indicators. Unable to dig past 8 inches due to dry, rocky soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
Remarks: <u>Does not meet all three wetland parameters; upland.</u>	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Eric Christensen</u>	Date: <u>09/20/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>UPL</u> Transect ID: <u>7</u> Plot ID: <u>--</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Torilis arvensis (30%)</u>	<u>HERB</u>	<u>UPL</u>	9. <u>Toxicodendron diversil. (3%)</u>	<u>HERB</u>	<u>UPL</u>
2. <u>Cynosurus echinatus (40%)</u>	<u>HERB</u>	<u>UPL</u>	10. _____	_____	_____
3. <u>Bromus diandrus (25%)</u>	<u>HERB</u>	<u>NI</u>	11. _____	_____	_____
4. <u>Quercus wislizenii (80%)</u>	<u>TREE</u>	<u>UPL</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0 %

Remarks: Insufficient hydrophytic vegetation.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Remarks: <u>Insufficient hydrology indicators. Other: topographic map.</u>

Map Unit Name (Series and Phase): <u>Andregg coarse sandy loam, 2-9% slopes</u>		Drainage Class: <u>Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>		Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

<u>Profile Description:</u> Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-18	A	7.5YR 3/3	N/A	N/A	sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Insufficient hydric soil indicators.

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
Remarks: Does not meet all three wetland parameters; upland.	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Eric Christensen</u>	Date: <u>09/20/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? (If needed, explain on reverse.) <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: <u>Rip Wet</u> Transect ID: <u>8</u> Plot ID: <u>a</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Xanthium strumarium (25%)</u>	<u>HERB</u>	<u>FAC+</u>	9. <u>Lolium perenne (10%)</u>	<u>HERB</u>	<u>FAC*</u>
2. <u>Salix sp. (18%)</u>	<u>TREE</u>		10. <u>Polypogon monspeliensis (5%)</u>	<u>HERB</u>	<u>FACW+</u>
3. <u>Rubus discolor (13%)</u>	<u>SHRUB</u>	<u>FACW*</u>	11. <u>Rorippa palustris (2%)</u>	<u>HERB</u>	<u>OBL</u>
4. <u>Mentha spicata (13%)</u>	<u>HERB</u>	<u>OBL</u>	12. <u>Quercus wislizenii (5%)</u>	<u>TREE</u>	<u>UPL</u>
5. <u>Quercus lobata (7%)</u>	<u>TREE</u>	<u>FAC*</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100 %

Remarks: Dominance of hydrophytic vegetation. Assuming Salix species is FAC or greater based on hydrology and other plant species.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Remarks: <u>Sufficient hydrology indicators. Satisfies FAC-neutral test. Other: topographic map.</u>

SOILS

Map Unit Name (Series and Phase): <u>Andrege coarse sandy loam, 2 to 9% slopes</u>				Drainage Class: <u>Well drained</u>	
Taxonomy (Subgroup): <u>Ultic Haploxerolls</u>				Field Observations Confirm Mapped Type? <input type="radio"/> Yes <input checked="" type="radio"/> No	

Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-3	A	10YR 4/1	5YR 5/8	many/coarse/prom.	sandy clay loam
4-8	A	10YR 4/2	2.5YR 3/4	many/coarse/prom.	sandy clay

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input checked="" type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Sufficient hydric soil indicators - low chroma soil with mottles and large, soft black concretions believed to be Manganese. Unable to dig past 8 inches due to dry, rocky soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
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Remarks: Meets all three wetland parameters; riparian wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Loomis Marketplace</u> Applicant/Owner: <u>KOBRA Properties</u> Investigator: <u>Eric Christensen</u>	Date: <u>09/20/2006</u> County: <u>Placer</u> State: <u>California</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>UPL</u> Transect ID: <u>8</u> Plot ID: <u>b</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Associate Plant Species	Stratum	Indicator
1. <u>Torilis arvensis (20%)</u>	<u>HERB</u>	<u>UPL</u>	9. <u>Mentha spicata (1%)</u>	<u>HERB</u>	<u>OBL</u>
2. <u>Cynosurus echinatus (20%)</u>	<u>HERB</u>	<u>UPL</u>	10. <u>Bromus diandrus (15%)</u>	<u>HERB</u>	<u>NI</u>
3. <u>Quercus wislizenii (20%)</u>	<u>TREE</u>	<u>UPL</u>	11. <u>Polypogon monspeliensis (1%)</u>	<u>HERB</u>	<u>FACW+</u>
4. <u>Rubus discolor (5%)</u>	<u>SHRUB</u>	<u>FACW*</u>	12. <u>Hordeum murinum (15%)</u>	<u>HERB</u>	<u>NI</u>
5. <u>Salix sp. (10%)</u>	<u>TREE</u>		13. <u>Lolium perenne (10%)</u>	<u>HERB</u>	<u>FAC*</u>
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 40 %

Remarks: Insufficient hydrophytic vegetation. Assuming Salix species is FAC or greater.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available <hr/> Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Free Water in Pit: <u>N/A</u> (in.) Depth to Saturated Soil: <u>N/A</u> (in.)	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Remarks: <u>Insufficient hydrology indicators. Other: topographic map.</u>	

SOILS

Map Unit Name (Series and Phase): <u>Xerorthents, Placer Areas</u>				Drainage Class: <u>D</u>	
Taxonomy (Subgroup): <u>Xerorthents</u>				Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Profile Description:		Matrix Color	Mottle Colors	Mottle Abundance/	Texture, Concretions,
Depth	Horizon	(Munsell Moist)	(Munsell Moist)	Size/Contrast	Structure, etc.
(inches)					
0-4	A	10YR 3/2	7.5YR 4/4	comm/fine/prom	loamy sand
5-12	A	10YR 3/2	7.5YR 2.5/3	comm/med/prom	sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: Sufficient hydric soil indicators - low chroma soil with mottles.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
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Remarks: Does not meet all three wetland parameters; upland.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6201 Horseshoe Bar Road City/County: Loomis/Placer Sampling Date: 11/19/2013
 Applicant/Owner: Tulip Asset LLC State: CA Sampling Point: 9a
 Investigator(s): Kirk Vail Section, Township, Range: S10, T11N, R7E Rocklin, California USGS 7.5-minute quadrangle
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C Lat: 38.81715 Long: -121.18547 Datum: NAD 83
 Soil Map Unit Name: Xerorthents, placer areas NWI classification: Adjacent Wetland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Wetland is a four foot strip along both banks, 30 m long north, 20 m long south	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>n/a</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>50</u> x 1 = <u>5</u> FACW species <u>7</u> x 2 = <u>14</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>57</u> (A) <u>64</u> (B) Prevalence Index = B/A = <u>1.1</u>
Sapling/Shrub Stratum (Plot size: _____) 1. <u>n/a</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Persicaria punctata</u> <u>10</u> <u>N</u> <u>OBL</u> 2. <u>Leersia oryoides</u> <u>40</u> <u>Y</u> <u>OBL</u> 3. <u>Juncus balticus</u> <u>5</u> <u>N</u> <u>FACW</u> 4. <u>Cyperus eragrostis</u> <u>2</u> <u>N</u> <u>FACW</u> 5. <u>Verbena bonariensis</u> <u>3</u> <u>N</u> <u>FACW</u> 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Sampling Point: 9a

HYDROLOGY

Wetland Hydrology Indicators:

Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6201 Horseshoe Bar Road City/County: Loomis/Placer Sampling Date: 11/19/2013
 Applicant/Owner: Tulip Asset LLC State: CA Sampling Point: 9b
 Investigator(s): Kirk Vail Section, Township, Range: S10, T11N, R7E Rocklin, California USGS 7.5-minute quadrangle
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C Lat: 38.81715 Long: -121.18547 Datum: NAD 83
 Soil Map Unit Name: Xerorthents, placer areas NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: This area considered riparian wetland in 2007. Valley oak and Himalayan blackberry indicator status changed to FACU. Therefore, dominant vegetation is no longer hydrophytic.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16</u> (A/B)
1. <u>Salix laevigata</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Quercus lobata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>2</u> x 3 = <u>6</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>12</u> x 5 = <u>60</u> Column Totals: <u>134</u> (A) <u>466</u> (B) Prevalence Index = B/A = <u>3.47</u>
3. <u>Quercus wislizeni</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_____	<u>52</u> = Total Cover	_____	_____	
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>Rubus armenicus</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Phytolacca americana</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	Remarks:
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____ _____ = Total Cover
5. _____	_____	_____	_____	
Herb Stratum (Plot size: _____)				
1. <u>Bromus diandrus</u>	<u>3</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Torilis arvensis</u>	<u>2</u>	<u>Y</u>	<u>UPL</u>	
3. <u>Toxicodendron diversiloba</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____	<u>60</u> = Total Cover	_____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____	_____	_____	_____	

Sampling Point: 9b

HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6201 Horseshoe Bar Road City/County: Loomis/Placer Sampling Date: 11/19/2013
 Applicant/Owner: Tulip Asset LLC State: CA Sampling Point: 10
 Investigator(s): Kirk Vail Section, Township, Range: S10, T11N, R7E Rocklin, California USGS 7.5-minute quadrangle
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C Lat: 38.81757 Long: -121.18668 Datum: NAD 83
 Soil Map Unit Name: Xerorthents, placer areas NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: This area considered riparian wetland in 2007. Valley oak and Himalayan blackberry indicator status changed to FACU, therefore dominant vegetation is no longer hydrophytic.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16</u> (A/B)
1. <u>Salix laevigata</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Quercus lobata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>3</u> x 3 = <u>9</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>17</u> x 5 = <u>60</u> Column Totals: <u>95</u> (A) <u>466</u> (B) Prevalence Index = B/A = <u>3.56</u>
3. <u>Quercus wislizeni</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rubus armenicus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Phytolacca americana</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>33</u> = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Bromus diandrus</u>	<u>2</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Torilis arvensis</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	
3. <u>Toxicodendron diversiloba</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>12</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/1	90	10YR 4/4	10	RM	PL	silty	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Vernal Pools (F9)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: <u>hard layer</u> Depth (inches): <u>12</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input checked="" type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Edge of drainage area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6201 Horseshoe Bar Road City/County: Loomis/Placer Sampling Date: 11/19/2013
 Applicant/Owner: Tulip Asset LLC State: CA Sampling Point: 11a
 Investigator(s): Kirk Vail Section, Township, Range: S10, T11N, R7E Rocklin, California USGS 7.5-minute quadrangle
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C Lat: 38.81401 Long: -121.19138 Datum: NAD 83
 Soil Map Unit Name: Andregg coarse sandy loam, 2 to 9 percent slopes NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: <u>Northwest corner of site.</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
1. <u>Salix laevigata</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Populus fremontii</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>45</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Rubus armenicus</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rosa sp.</u>	<u>3</u>	<u>N</u>	<u>Unk.</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>73</u> = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: _____)				
1. <u>Festuca perennis</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Cyperus eragrostis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
3. <u>Festuca bromoides</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>8</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 11a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/1	90	10YR 4/6	10	C	PL	silty loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present): Type: <u>hard layer</u> Depth (inches): <u>12</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Depression.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6201 Horseshoe Bar Road City/County: Loomis/Placer Sampling Date: 11/19/2013
 Applicant/Owner: Tulip Asset LLC State: CA Sampling Point: 11b
 Investigator(s): Kirk Vail Section, Township, Range: S10, T11N, R7E Rocklin, California USGS 7.5-minute quadrangle
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C Lat: 38.81404 Long: -121.19121 Datum: NAD 83
 Soil Map Unit Name: Xerorthents, placer areas NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>70</u> (A) <u>330</u> (B) Prevalence Index = B/A = <u>4.71</u>
Sapling/Shrub Stratum (Plot size: _____) 1. <u>Rubus armenicus</u> <u>20</u> <u>Y</u> <u>FACU</u>				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Trifolium hirtum</u> <u>20</u> <u>Y</u> <u>UPL</u>				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Centaurea solstitialis</u> <u>30</u> <u>Y</u> <u>UPL</u>				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:				

SOIL

Sampling Point: 11b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/3	100					silty	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input checked="" type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6201 Horseshoe Bar Road City/County: Loomis/Placer Sampling Date: 11/19/2013
 Applicant/Owner: Tulip Asset LLC State: CA Sampling Point: 12a
 Investigator(s): Kirk Vail Section, Township, Range: S10, T11N, R7E Rocklin, California USGS 7.5-minute quadrangle
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C Lat: 38.81271 Long: -121.19116 Datum: NAD 83
 Soil Map Unit Name: Andregg coarse sandy loam, 2 to 9 percent slopes NWI classification: Upland
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: <u>Graded strips of vegetation for fire protection.</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Bromus diandrus</u> <u>30</u> <u>Y</u> <u>UPL</u> 2. <u>Bromus hordeaceus</u> <u>20</u> <u>Y</u> <u>FACU</u> 3. <u>Trifolium hirtum</u> <u>10</u> <u>N</u> <u>UPL</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Sampling Point: 12a

HYDROLOGY

Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 6201 Horseshoe Bar Road City/County: Loomis/Placer Sampling Date: 11/19/2013
 Applicant/Owner: Tulip Asset LLC State: CA Sampling Point: 12b
 Investigator(s): Kirk Vail Section, Township, Range: S10, T11N, R7E Rocklin, California USGS 7.5-minute quadrangle
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C Lat: 38.81250 Long: -121.19109 Datum: NAD 83
 Soil Map Unit Name: Andregg coarse sandy loam, 2 to 9 percent slopes NWI classification: Riverine Seasonal Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: <u>Southwestern corner.</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>Populus fremontii</u>	<u>33</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Quercus lobata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>103</u> x 2 = <u>206</u> FAC species _____ x 3 = _____ FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>148</u> (A) <u>391</u> (B) Prevalence Index = B/A = <u>2.64</u>
3. <u>Quercus wislizeni</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
<u>48</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Rubus armenicus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Salix lasiolepis</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

Sampling Point: 12b

HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? Yes _____ No ✓ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ✓ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

US Army Corps of Engineers

Appendix C — Preliminary Jurisdictional Determination Form

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): March 27, 2014

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Foothill Associates
590 Menlo Drive, Suite 5
Rocklin, California 95765

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENAP-OP-R-

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: California County: Placer City: Loomis
Center coordinates of site (lat/long in degree decimal format):
Lat. 38.82 ° N, Long. -121.18 ° W
Universal Transverse Mercator: m Easting (x) m Northing (y)
Name of nearest waterbody: Secret Ravine Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Cowardin Class:

Stream Flow:

Wetlands: 1.13 acres.

Cowardin Class:

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination.

Date:

☐ Field Determination.

Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring “pre-construction notification” (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant’s acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there “*may be*” waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.

- IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

Mercedes Burton

Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining the signature
is impracticable)

Arborist Report

6201 Horseshoe Bar Road ±63-Acre Site
Loomis, California

Prepared for: Tulip Asset LLC

Date: January 27, 2014

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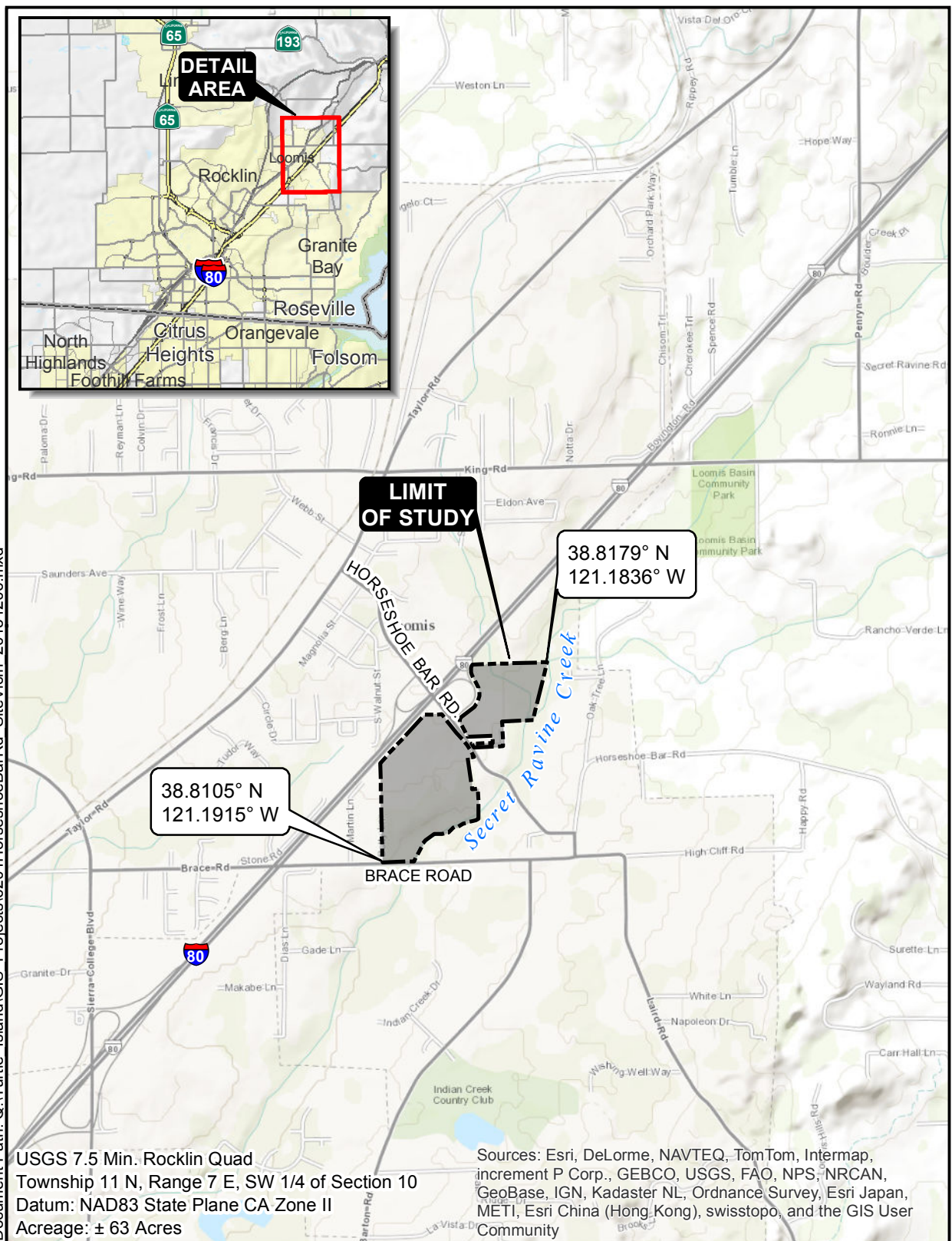
1.0 INTRODUCTION

This report presents the results of a tree survey conducted for portions of the ±63-acre 6201 Horseshoe Bar Road site located in the Town of Loomis, Placer County, California. The site is located just south of Interstate 80 and is bifurcated by Horseshoe Bar Road. The western half of the site is bordered on the south by Brace Road (**Figure 1**). The property is bounded on the east, south, and west by low-density residential development. Secret Ravine flows generally along the southeast boundary of the site and a tributary to it crosses the northeast corner of the site. The purpose of this report is to present information on the species, size, and condition of the trees on the property.

The entire site was previously surveyed in 2007, as documented in the *Arborist Report* dated October 10, 2007 prepared by Foothill Associates. While the 2007 report documented a total of 2,936 trees on the project site, this report focuses only on the potentially impacted areas. All trees within 30 feet of the conceptual plan site improvement boundary were reinventoried.

The Town of Loomis Ordinance for the Preservation of Heritage Trees regulates the removal of protected trees. Heritage trees include all native oak trees with a trunk diameter of at least six inches and other tree species with a trunk diameter of 19 inches at 54 inches above the ground. Eucalyptus (*Eucalyptus* sp.), alder (*Alnus rhombifolia*), cottonwood (*Populus fremontii*), pine (*Pinus* spp.), fruit trees, and willow (*Salix* spp.) trees of any size are exempted from the ordinance.

Document Path: Q:\Turtle Island\GIS Projects\6201HorseshoeBarRd_SiteVicin_20131206.mxd



SITE AND VICINITY



0 750 1500
SCALE IN FEET

Drawn By: MUB
Date: 12/06/2013

FIGURE 1

2.0 METHODS

The property was surveyed by International Society of Arboriculture (ISA) Certified Arborists during the month of December 2013. All living tagged trees were closely examined to determine their species type and diameter. A diameter tape was used to verify each trunk diameter at breast height (DBH) which is 54" above the ground. The measurement from the trunk to the end of the longest lateral limb was used as the dripline radius (DLR), which establishes the tree protection zone (TPZ) of the tree. All tagged trees that met the criteria for protection under the Town of Loomis Heritage Tree Ordinance were inventoried. All surveyed trees are identified with an aluminum tag or plastic flagging which corresponds to the numbering in **Appendix A**. Tree locations were previously surveyed by Burrell Engineering. No data were collected for dead trees, which are identified in **Appendix B**. The approximate locations of new trees tagged during this survey were located based on their position in relation to existing trees (**Appendix C**).

The health and structural condition of each tree was rated according to **Table 1**. The health rating considers factors such as the size, color, and density of the foliage; the amount of deadwood within the canopy; bud viability; evidence of wound closure; and the presence or evidence of stress, disease, nutrient deficiency, and insect infestation. The structural rating reflects the trunk and branch configuration; canopy balance; the presence of included bark and other structural defects such as decay; and the potential for structural failure. In cases where conditions fall between the Good, Fair, and Poor ratings, intermediate ratings Fair-Good and Fair-Poor were used.

Table 1 — Tree Rating System

Rating	Tree Health
Good	There is an average or below-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are typical for the species; buds are normal size, viable, abundant, and uniform throughout the canopy; current and past growth increments are generally average or better; any callusing is vigorous. This health rating indicates that there is very little, if any, evidence of stress, disease, nutrient deficiency, and/or insect infestation.
Fair	There is an above-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density may be below what is typically expected for the species; buds are normal size and viable, but slightly sparse throughout the canopy; current and past growth increments may be below average; tree may be slow to callus around old wounds. This health rating indicates that there is moderate evidence of stress, disease, nutrient deficiency, and/or insect infestation.
Poor	There is an extreme amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are clearly compromised; very few viable buds are present throughout the canopy; current and past growth increments are meager; no evidence of callusing around old wounds. This health rating indicates that there is widespread evidence of stress, disease, nutrient deficiency, and/or insect infestation.
Tree Structure	
Good	No wounds, cavities, decay, or indication of hollowness are evident in the root crown, trunk, or primary and secondary limbs; no anchor roots are exposed; no codominant branching or multiple trunk attachments are present; very little included bark at branch attachments exists; no dead primary or secondary limbs are present in canopy; there have been no major limb failures; limbs are not overburdened; branching structure is appropriate for species; any decay is limited to small dead branches/stubs. This structure rating represents a low potential for failure.
Fair	With respect to the size of the tree, small to moderate wounds, cavities, decay, and indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; some anchor roots may be exposed; codominant branching or multiple trunk attachments may be present, but included bark does not exist or is not well developed; minor to moderate amounts of included bark at branch attachments may exist; there may be small to moderate amounts of large dead limbs in canopy, but there is no evidence of large limb failures; limbs may be slightly overburdened; branching structure and/or canopy balance may be moderately altered by the tree's growing environment. This structure rating represents a moderate potential for failure.
Poor	With respect to the size of the tree, significant wounds, cavities, decay, and/or indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; anchor roots may be exposed and/or the tree may have lost anchorage; codominant branching or multiple trunk attachments may be present; significant amounts of included bark may exist in trunk and branch attachments; there may be significant amounts of large dead limbs in the canopy; there may be evidence of trunk or large limb failures; limbs may be severely overburdened; branching structure and/or canopy balance may be drastically altered by the tree's growing environment. This structure rating represents a high potential for failure.

3.0 RESULTS AND DISCUSSION

A total of 1,214 trees, comprised of 679 interior live oaks (*Quercus wislizenii*), 526 valley oaks (*Quercus lobata*), and 9 blue oaks (*Quercus douglasii*), were inventoried on the site. Additionally, 52 dead trees were identified.

The inventoried trees are located only within the proposed project footprint and a 30-foot buffer surrounding it. The northwest quadrant has been used for agriculture in the past and is composed primarily of grassland with scattered groupings of trees. The southern section of the eastern half of the site is also open grassland with scattered trees and is currently used as horse pasture. The rest of the site is densely wooded, with a number of small drainages and swales running toward Secret Ravine.

The understory of the open areas is composed of annual grasses and forbs. The oak woodland understory includes poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus ameniacus*), toyon (*Heteromeles arbutifolia*), California coffeeberry (*Rhamnus californica*), California buckeye (*Aesculus californica*), and other grasses and forbs.

Table 2 shows the health condition by the structure rating with 1,036 trees (85 percent) rated as Fair or better, with a large proportion of trees (843 trees or 69 percent) in the Fair category. A total of 926 trees (76 percent) have a structure rating of Fair or better.

Appendix A lists the data collected for each inventoried tree.

Table 2 — Number of Trees by Health and Structure Ratings

Health							
Structure		Good	Fair-Good	Fair	Fair-Poor	Poor	Total Trees
	Good	2	173	279	5	0	459
	Fair-Good	0	3	27	0	0	30
	Fair	0	14	405	18	0	437
	Fair-Poor	0	0	8	0	0	8
	Poor	0	1	124	133	22	280
	Total Trees	2	191	843	156	22	1214

Overall, the data show the site trees as in fair or better health and structure. Trees in the open-grown areas tend to have a fuller, more symmetrical crown, and usually show a better health and structure rating than suppressed trees under dense canopy. While trees with a Fair health rating have the potential to improve over time with the implementation of plant health care techniques, changes in environmental elements, etc.; trees with a Fair structure rating typically worsen over time as existing structural defects (e.g., decay and included bark) continue to exacerbate. For this reason, trees with a Fair structure rating may not be good candidates for preservation in proposed high-use areas.

Once improvement plans are finalized, the impacts to all inventoried trees should be assessed by an ISA Certified Arborist so that the appropriate recommendations can be provided.

Appendix A — Tree Survey Data

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
2	Valley Oak	2	17,24	40	Fair	Good
4	Valley Oak	1	17	25	Fair	Good
37	Interior Live Oak	3	14,12,6	20	Fair	Fair
65	Valley Oak	1	16	30	Fair-Good	Good
75	Valley Oak	1	19	30	Fair	Good
76	Valley Oak	2	16,8	30	Fair	Good
81	Valley Oak	1	22	50	Fair-Good	Good
84	Valley Oak	1	24	30	Fair	Fair-Good
94	Valley Oak	1	21	30	Fair	Good
99	Valley Oak	1	24	40	Fair	Good
118	Valley Oak	1	19	40	Fair-Good	Good
124	Valley Oak	1	15	30	Good	Good
129	Interior Live Oak	3	22,14,9	30	Fair-Good	Good
138	Valley Oak	1	14	25	Fair	Good
139	Valley Oak	1	12	25	Fair-Good	Good
141	Valley Oak	2	17,10	30	Fair-Good	Good
153	Valley Oak	1	19	30	Fair-Good	Good
157	Valley Oak	2	13,6	20	Fair	Good
166	Valley Oak	1	13	20	Fair	Fair-Good
172	Valley Oak	1	17	25	Fair	Good
176	Interior Live Oak	6	14,14,10,10,6,6	40	Fair-Good	Good
182	Valley Oak	1	10	10	Fair	Poor
190	Valley Oak	1	14	20	Fair	Fair
193	Valley Oak	1	13	20	Fair	Fair
197	Valley Oak	1	14	20	Fair	Fair
201	Interior Live Oak	6	8,6,6,6,6,6	15	Fair	Fair
202	Interior Live Oak	2	11,6	15	Fair	Fair
208	Interior Live Oak	2	9,9	25	Fair-Good	Good
319	Valley Oak	1	7	10	Fair	Fair
343	Valley Oak	2	14,8	30	Fair	Good
344	Valley Oak	2	11,12	40	Fair	Good
345	Interior Live Oak	1	7	10	Fair-Poor	Poor
347	Interior Live Oak	1	13	30	Fair	Fair
352	Interior Live Oak	6	6,5,11,8,7,11	30	Fair	Fair
353	Valley Oak	1	9	15	Fair	Fair
354	Interior Live Oak	1	6	20	Fair-Poor	Poor
355	Valley Oak	1	14	10	Fair	Poor
356	Valley Oak	1	13	10	Fair	Poor
358	Valley Oak	1	8	10	Fair-Poor	Fair
359	Valley Oak	1	20	40	Fair-Good	Good
360	Valley Oak	1	18	30	Fair-Good	Good
361	Valley Oak	1	15	25	Fair	Fair
362	Valley Oak	1	15	30	Fair	Fair

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
363	Valley Oak	1	12	20	Fair	Fair
364	Valley Oak	1	8	10	Fair	Fair
365	Valley Oak	2	13,12	30	Fair	Fair
366	Valley Oak	1	10	15	Fair	Fair
367	Valley Oak	1	6	10	Fair	Fair
368	Interior Live Oak	1	9	15	Fair	Poor
369	Valley Oak	1	14	20	Fair	Fair
374	Interior Live Oak	1	7	15	Fair	Fair
375	Interior Live Oak	1	10	10	Fair-Poor	Poor
520	Interior Live Oak	4	12,8,10,13	40	Fair-Good	Good
521	Valley Oak	1	12	25	Fair	Good
523	Valley Oak	2	17,16	50	Fair-Good	Good
525	Interior Live Oak	1	18	50	Fair-Good	Good
526	Valley Oak	1	17	40	Fair-Good	Good
531	Interior Live Oak	2	6,4	15	Fair	Poor
539	Interior Live Oak	1	20	20	Fair	Fair
540	Interior Live Oak	4	10,7,7,6	30	Fair	Good
544	Interior Live Oak	1	19	40	Fair-Good	Good
550	Interior Live Oak	2	12,8	30	Fair	Good
713	Interior Live Oak	1	9		Poor	Poor
719	Interior Live Oak	3	10,10,6	30	Fair-Good	Good
746	Interior Live Oak	2	6,3	10	Fair-Poor	Poor
784	Interior Live Oak	1	7	15	Fair	Fair
787	Interior Live Oak	3	9,8,7	30	Fair	Fair
819	Interior Live Oak	1	5	10	Fair-Poor	Poor
830	Interior Live Oak	1	7	15	Fair	Fair
852	Interior Live Oak	2	13,11	30	Fair	Fair
854	Interior Live Oak	1	6	10	Fair-Poor	Poor
869	Interior Live Oak	1	7	5	Fair	Poor
873	Interior Live Oak	1	8	10	Fair-Poor	Poor
915	Valley Oak	1	29,11	50	Fair	Good
917	Valley Oak	1	19	25	Fair-Good	Good
925	Valley Oak	1	13	20	Fair	Fair
976	Valley Oak	1	19	20	Fair	Poor
1038	Valley Oak	1	16	35	Fair	Fair-Good
1045	Interior Live Oak	1	14	30	Fair	Poor
1046	Interior Live Oak	1	6	10	Fair-Poor	Poor
1128	Interior Live Oak	1	8	10	Fair-Poor	Poor
1273	Valley Oak	1	18	20	Fair	Poor
1274	Interior Live Oak	1	10	15	Fair	Fair
1281	Interior Live Oak	1	8	15	Fair	Poor
1296	Interior Live Oak	1	11	25	Fair	Fair
1617	Valley Oak	1	16	40	Fair-Good	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
1620	Interior Live Oak	1	8	15	Fair-Poor	Poor
1624	Valley Oak	1	14	20	Fair	Fair
1875	Interior Live Oak	1	17	30	Fair	Fair
1876	Interior Live Oak	1	11	20	Fair	Fair-Poor
1877	Interior Live Oak	2	12,8	30	Fair	Fair
1878	Interior Live Oak	2	9,5	30	Fair	Fair
1879	Interior Live Oak	1	8	20	Fair	Fair
1880	Interior Live Oak	6	11,12,13,11,7,8	60	Fair-Good	Good
1881	Interior Live Oak	2	13,9	30	Fair-Good	Good
1891	Interior Live Oak	1	10	30	Fair	Good
1892	Interior Live Oak	1	10	25	Fair	Fair
1926	Interior Live Oak	1	12	30	Fair	Fair
1927	Interior Live Oak	3	15,10,8	40	Fair	Good
1945	Interior Live Oak	1	7	10	Fair	Poor
1946	Interior Live Oak	1	8	20	Fair	Poor
1947	Interior Live Oak	1	10	20	Fair	Poor
1948	Interior Live Oak	2	6,5	10	Fair	Poor
1949	Interior Live Oak	2	9,11	30	Fair	Good
1953	Interior Live Oak	1	6	15	Fair	Fair
1954	Valley Oak	1	8	10	Fair	Poor
1955	Interior Live Oak	3	17,11,7	45	Fair-Good	Good
1966	Valley Oak	1	9	15	Fair	Poor
1967	Valley Oak	1	10	10	Poor	Poor
1969	Interior Live Oak	1	8	20	Fair	Fair
1970	Interior Live Oak	1	6	10	Fair	Fair
1971	Interior Live Oak	2	7,6	10	Fair	Fair
1972	Valley Oak	1	7	10	Fair	Poor
1973	Valley Oak	1	9	15	Fair	Poor
1974	Valley Oak	2	17,14	50	Fair	Good
1979	Interior Live Oak	1	14	40	Fair	Good
1981	Valley Oak	1	7	10	Fair-Poor	Poor
1982	Valley Oak	1	9	10	Fair	Fair
1983	Valley Oak	1	6	10	Fair	Poor
1984	Interior Live Oak	1	11	15	Fair-Poor	Poor
1986	Interior Live Oak	1	10	20	Fair-Good	Good
2005	Interior Live Oak	3	26,4,3	50	Fair	Good
2007	Interior Live Oak	2	9,8	30	Fair	Fair-Good
2008	Interior Live Oak	2	6,8	15	Fair	Fair
2009	Interior Live Oak	2	9,6	20	Fair	Fair
2010	Interior Live Oak	1	13	30	Fair	Fair
2028	Interior Live Oak	2	10,5	15	Fair	Poor
2029	Interior Live Oak	1	8	20	Fair	Fair
2031	Interior Live Oak	1	7	15	Fair	Fair

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
2032	Interior Live Oak	3	10,8,4	30	Fair	Fair
2033	Interior Live Oak	1	8	20	Fair	Fair
2034	Interior Live Oak	1	8	15	Fair	Fair
2040	Interior Live Oak	4	6,6,5,4	20	Fair-Good	Good
2041	Interior Live Oak	3	9,8,6	20	Fair	Poor
2042	Interior Live Oak	2	6,5	10	Fair	Poor
2044	Interior Live Oak	2	9,6	20	Fair-Poor	Poor
2045	Interior Live Oak	1	10	20	Fair	Fair
2046	Interior Live Oak	1	10	20	Fair	Fair
2077	Interior Live Oak	1	6	10	Fair-Poor	Poor
2078	Valley Oak	2	12,6	15	Fair	Fair
2079	Valley Oak	1	30	20	Poor	Poor
2080	Valley Oak	2	12,7	20	Fair	Poor
2082	Interior Live Oak	2	10,9	30	Fair	Fair
2083	Valley Oak	2	9,7	15	Fair	Poor
2084	Interior Live Oak	1	7	10	Fair-Poor	Poor
2085	Interior Live Oak	2	17,6	30	Fair-Good	Good
2086	Interior Live Oak	1	9	30	Fair	Fair
2087	Valley Oak	1	10	15	Fair	Fair-Poor
2119	Valley Oak	1	14	20	Fair	Fair
2120	Valley Oak	1	8	15	Fair	Fair
2209	Interior Live Oak	1	16	40	Fair-Good	Good
2210	Interior Live Oak	1	13	20	Fair	Fair
2215	Valley Oak	1	10	15	Fair	Fair
2216	Valley Oak	1	13	15	Fair-Poor	Poor
2220	Interior Live Oak	1	14	25	Fair	Fair
2226	Interior Live Oak	1	15	10	Fair-Poor	Poor
2228	Valley Oak	1	12	15	Fair	Poor
2231	Interior Live Oak	1	14	10	Fair-Poor	Poor
2232	Valley Oak	1	12	20	Fair	Poor
2238	Interior Live Oak	1	18	15	Fair-Poor	Poor
2239	Interior Live Oak	1	11	20	Fair	Fair
2242	Valley Oak	1	18	40	Fair	Fair
2244	Valley Oak	1	13	10	Fair-Poor	Poor
2250	Valley Oak	1	8	10	Fair-Poor	Poor
2253	Interior Live Oak	5	11,9,10,9,6	40	Fair-Good	Good
2256	Interior Live Oak	1	8	15	Fair-Poor	Poor
2258	Valley Oak	1	18	15	Fair	Fair
2259	Interior Live Oak	1	15	15	Poor	Poor
2260	Interior Live Oak	1	7	15	Fair	Good
2269	Interior Live Oak	1	14	12	Fair	Fair
2274	Valley Oak	1	19	30	Fair-Poor	Poor
2275	Interior Live Oak	1	20	25	Fair-Poor	Good

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
2278	Valley Oak	1	9	15	Fair	Fair
2279	Valley Oak	1	9	20	Fair	Poor
2280	Valley Oak	1	13	20	Fair-Poor	Poor
2281	Valley Oak	1	9	10	Fair-Poor	Poor
2282	Valley Oak	1	9	15	Fair	Fair
2285	Blue Oak	1	28	40	Fair	Fair
2287	Valley Oak	1	10	10	Fair	Fair
2288	Valley Oak	1	7	10	Fair-Poor	Poor
2289	Valley Oak	1	7	10	Fair	Poor
2290	Valley Oak	1	9	20	Fair	Fair
2292	Valley Oak	1	17	25	Fair	Fair
2293	Valley Oak	1	13	20	Fair-Poor	Poor
2295	Valley Oak	1	12	10	Fair-Poor	Poor
2300	Valley Oak	1	10	15	Fair	Poor
2338	Valley Oak	1	34	30	Fair	Fair
2361	Valley Oak	1	18	30	Fair	Good
2394	Interior Live Oak	2	12, 4	20	Fair	Fair
2395	Interior Live Oak	3	8,4,6	15	Fair	Fair
2397	Interior Live Oak	8	8,6,9,8,11,5,10,6	20	Fair	Fair
2400	Interior Live Oak	1	7	10	Fair-Poor	Poor
2401	Interior Live Oak	2	12,7	25	Fair	Good
2403	Interior Live Oak	2	9,6	25	Fair	Fair
2405	Interior Live Oak	2	10,10	30	Fair	Good
2406	Interior Live Oak	1	6	15	Fair	Fair
2408	Interior Live Oak	1	10	25	Fair	Fair
2408	Interior Live Oak	1	18	20	Fair	Fair
2409	Valley Oak	1	9	15	Fair	Fair
2410	Interior Live Oak	1	10	15	Fair	Fair
2411	Interior Live Oak	1	16	20	Fair	Fair
2412	Valley Oak	1	14	30	Fair	Fair
2413	Valley Oak	1	10	20	Fair	Fair
2414	Valley Oak	1	7	10	Fair	Poor
2415	Interior Live Oak	2	9,8	20	Fair	Fair
2416	Interior Live Oak	3	8,7,3	30	Fair	Fair-Good
2417	Interior Live Oak	6	11,8,7,5,4,4	30	Fair-Good	Good
2418	Valley Oak	2	9,7	30	Fair	Fair
2419	Interior Live Oak	2	8	15	Fair	Fair
2420	Valley Oak	1	11	20	Fair	Fair
2421	Interior Live Oak	2	11,6	20	Fair	Fair
2424	Valley Oak	1	9	15	Fair-Good	Good
2425	Interior Live Oak	4	9,7,7,7	20	Fair	Poor
2426	Interior Live Oak	3	10,6,6	20	Fair	Good
2427	Valley Oak	1	9	15	Fair	Fair

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
2428	Valley Oak	1	10	15	Fair	Fair
2429	Interior Live Oak	1	11	15	Fair	Good
2430	Interior Live Oak	2	12,10	35	Fair-Good	Good
2431	Interior Live Oak	1	10	25	Fair-Good	Good
2432	Interior Live Oak	1	12	26	Fair-Good	Good
2434	Interior Live Oak	1	11	10	Poor	Poor
2435	Interior Live Oak	2	10,3	25	Fair	Fair
2436	Interior Live Oak	1	10	20	Fair	Fair
2437	Interior Live Oak	1	17	30	Fair-Good	Good
2438	Interior Live Oak	1	8	15	Fair	Fair
2439	Valley Oak	1	10	10	Poor	Poor
2440	Valley Oak	1	10,8	20	Fair	Poor
2441	Valley Oak	1	10	12	Fair	Poor
2443	Interior Live Oak	1	10	15	Fair	Poor
2443	Valley Oak	1	9	15	Fair	Fair
2444	Interior Live Oak	2	7,4	10	Fair-Poor	Poor
2445	Interior Live Oak	2	11,10	25	Fair	Good
2446	Interior Live Oak	2	16,14	15	Poor	Poor
2449	Valley Oak	1	8	15	Fair	Poor
2450	Interior Live Oak	3	8,6,6	30	Fair-Good	Good
2452	Valley Oak	1	6,3	5	Fair-Good	Poor
2867	Interior Live Oak	2	7,6	30	Fair	Good
2868	Interior Live Oak	1	12	40	Fair-Good	Good
2870	Interior Live Oak	1	8	20	Fair	Fair
2871	Interior Live Oak	1	6	10	Fair	Fair
2872	Interior Live Oak	2	7,7	15	Fair	Fair
2873	Interior Live Oak	1	6	10	Fair	Poor
2874	Interior Live Oak	2	12,5	30	Fair	Fair
2877	Interior Live Oak	1	10	20	Fair	Fair
2879	Interior Live Oak	1	9	20	Fair	Fair
2880	Interior Live Oak	4	12,7,9,7	30	Fair	Fair
2888	Interior Live Oak	1	10	40	Fair	Good
2890	Interior Live Oak	1	8	20	Fair	Fair
2891	Interior Live Oak	1	7	10	Fair-Poor	Poor
2894	Interior Live Oak	1	9	20	Fair	Fair
2895	Interior Live Oak	1	7	10	Fair	Fair
2896	Interior Live Oak	1	10	30	Fair	Good
2897	Interior Live Oak	2	14,12	40	Fair	Good
2905	Interior Live Oak	7	9,7,5,8,6,5,8	50	Fair	Fair
2915	Interior Live Oak	1	10	20	Fair	Fair
2916	Blue Oak	1	6	5	Fair-Poor	Poor
2946	Interior Live Oak	1	14	30	Fair-Good	Fair
2970	Interior Live Oak	1	11	30	Fair-Good	Good

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
2972	Interior Live Oak	2	19,8	10	Fair-Poor	Poor
2974	Interior Live Oak	1	14	20	Fair-Poor	Poor
2975	Interior Live Oak	1	8	20	Fair	Fair
2976	Interior Live Oak	1	11	20	Fair-Good	Good
2977	Interior Live Oak	2	14,13	50	Fair-Good	Good
2979	Interior Live Oak	1	6	16	Fair-Poor	Poor
2980	Interior Live Oak	1	14	60	Fair-Good	Good
2981	Interior Live Oak	2	5,2	10	Fair-Poor	Poor
2982	Interior Live Oak	1	10	20	Fair	Fair
2983	Interior Live Oak	1	7	10	Fair-Poor	Poor
2984	Interior Live Oak	1	7	10	Fair-Poor	Poor
2986	Valley Oak	1	16	50	Fair-Good	Good
2987	Interior Live Oak	2	13,5	30	Fair	Good
2989	Interior Live Oak	1	8	15	Fair-Poor	Poor
2990	Interior Live Oak	1	11	30	Fair-Good	Fair
2991	Interior Live Oak	3	10,6,4	20	Fair	Fair
2992	Interior Live Oak	3	9,14,9	50	Fair-Good	Fair
2993	Interior Live Oak	4	14,8,6,9	50	Fair	Good
2994	Interior Live Oak	1	10	40	Fair	Fair
2995	Interior Live Oak	3	10,8,5	20	Fair-Poor	Poor
2996	Interior Live Oak	3	7,9,9	25	Fair	Fair
2997	Interior Live Oak	1	10	15	Fair	Fair
2998	Interior Live Oak	2	11,14	30	Fair-Good	Good
2999	Interior Live Oak	1	11	20	Fair-Poor	Fair
3000	Interior Live Oak	3	6,6,4	20	Fair-Poor	Fair
3001	Interior Live Oak	1	9	10	Fair-Poor	Fair
3002	Interior Live Oak	3	8,8,3	25	Fair-Poor	Fair
3003	Interior Live Oak	4	10,8,8,7	30	Fair-Good	Good
3004	Interior Live Oak	2	10,7	20	Fair	Fair
3005	Interior Live Oak	2	11,8	30	Fair	Fair
3006	Valley Oak	1	15	20	Fair-Poor	Fair
3007	Interior Live Oak	1	15	25	Fair	Fair
3009	Interior Live Oak	2	8,5	15	Fair	Fair
3010	Interior Live Oak	1	6	10	Fair	Poor
3011	Interior Live Oak	3	8,7,6	25	Fair	Fair
3012	Interior Live Oak	1	11	15	Fair	Fair
3013	Interior Live Oak	1	9	20	Fair	Good
3014	Interior Live Oak	1	8	10	Fair	Poor
3015	Interior Live Oak	1	10	10	Fair	Fair
3016	Interior Live Oak	2	7,7	15	Fair	Poor
3017	Interior Live Oak	1	8	10	Fair	Poor
3018	Interior Live Oak	3	8,6,7	20	Fair	Fair
3019	Interior Live Oak	3	9,10,7	30	Fair	Fair

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
3020	Interior Live Oak	1	16	35	Fair	Good
3021	Interior Live Oak	1	6	10	Fair	Poor
3022	Interior Live Oak	2	14,11	25	Fair-Poor	Fair
3023	Valley Oak	1	8	15	Fair	Fair
3024	Interior Live Oak	2	12,10	20	Fair	Fair
3025	Interior Live Oak	3	13,8,7	30	Fair	Fair
3026	Interior Live Oak	2	8,6	20	Fair-Good	Good
3027	Interior Live Oak	5	11,8,6,6,9	60	Fair-Good	Good
3032	Interior Live Oak	1	6	10	Fair	Fair
3034	Interior Live Oak	4	6,10,6,7	30	Fair	Fair
3036	Interior Live Oak	1	16	40	Fair	Fair
3037	Interior Live Oak	1	7	10	Fair	Poor
3038	Blue Oak	1	7	10	Fair	Poor
3040	Interior Live Oak	1	8	10	Fair	Poor
3041	Interior Live Oak	2	9,9	30	Fair	Fair
3042	Interior Live Oak	1	12	50	Fair-Good	Good
3043	Interior Live Oak	1	7	30	Fair	Good
3044	Interior Live Oak	4	7,6,10,12	30	Fair	Good
3045	Interior Live Oak	5	12,8,8,7,8	40	Fair	Fair
3046	Interior Live Oak	2	7,6	20	Fair	Fair
3047	Interior Live Oak	2	12,6	20	Fair	Fair
3048	Interior Live Oak	2	17,7	40	Fair-Good	Good
3049	Interior Live Oak	1	12	30	Fair	Good
3050	Interior Live Oak	1	9	20	Fair	Poor
3051	Interior Live Oak	3	13,9,7	50	Fair	Good
3052	Interior Live Oak	1	10	25	Fair	Fair
3053	Blue Oak	2	8,6	15	Fair	Fair
3054	Interior Live Oak	1	13	20	Fair-Good	Good
3055	Interior Live Oak	2	9,7	20	Fair	Good
3056	Interior Live Oak	1	11	15	Fair	Fair
3057	Interior Live Oak	3	7,5,5	15	Fair	Fair
3125	Interior Live Oak	1	7	5	Fair-Poor	Poor
3126	Interior Live Oak	1	8	15	Fair	Fair
3129	Interior Live Oak	2	7,5	15	Fair	Fair
3130	Interior Live Oak	2	9,5	15	Fair	Fair
3135	Interior Live Oak	2	9,4	20	Fair	Fair
3136	Interior Live Oak	3	9,6,3	30	Fair	Good
3137	Interior Live Oak	6	11,9,8,6,5,3	60	Fair	Good
3138	Interior Live Oak	1	10	15	Fair	Fair
3139	Interior Live Oak	1	7	15	Fair	Fair
3140	Interior Live Oak	1	6	10	Fair	Fair
3141	Interior Live Oak	1	9	20	Fair	Good
3142	Interior Live Oak	2	13,9	50	Fair-Good	Good

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
3144	Interior Live Oak	2	8,6	20	Fair	Good
3153	Interior Live Oak	3	22,15,8	50	Fair-Good	Good
3154	Interior Live Oak	2	15,13	40	Fair-Good	Good
3155	Interior Live Oak	1	6	10	Fair	Fair
3156	Valley Oak	1	9	10	Fair	Poor
3157	Valley Oak	2	12,5	20	Fair	Fair
3158	Interior Live Oak	1	12	30	Fair	Good
3159	Interior Live Oak	1	5	10	Fair-Poor	Poor
3160	Interior Live Oak	1	11	25	Fair	Good
3162	Interior Live Oak	2	10,9	30	Fair	Good
3163	Interior Live Oak	3	9,7,8	20	Fair-Poor	Poor
3164	Interior Live Oak	1	12	25	Fair-Good	Good
3165	Interior Live Oak	1	9	20	Fair	Fair
3166	Interior Live Oak	3	8,6,5	30	Fair	Fair
3167	Interior Live Oak	1	7	10	Fair-Poor	Poor
3168	Interior Live Oak	1	6	10	Poor	Poor
3169	Interior Live Oak	1	6	10	Poor	Poor
3170	Interior Live Oak	1	10	20	Fair-Good	Good
3176	Interior Live Oak	2	8,5	20	Fair	Fair
3177	Interior Live Oak	2	9,7	30	Fair-Good	Good
3178	Interior Live Oak	1	8	25	Fair	Fair
3179	Interior Live Oak	1	6	10	Fair-Poor	Poor
3184	Interior Live Oak	3	8,9,6	30	Fair	Good
3185	Interior Live Oak	1	7	15	Fair	Good
3221	Interior Live Oak	1	13	30	Fair-Good	Good
3222	Interior Live Oak	2	8,9	30	Fair	Poor
3223	Interior Live Oak	1	8	20	Fair-Poor	Poor
3224	Interior Live Oak	4	8,7,6,8	20	Fair	Fair
3225	Interior Live Oak	1	6	12	Fair-Poor	Poor
3226	Interior Live Oak	2	9,7	40	Fair	Good
3227	Interior Live Oak	1	7	10	Fair-Poor	Poor
3228	Interior Live Oak	1	16	30	Fair-Good	Good
3229	Interior Live Oak	1	8	10	Fair-Poor	Poor
3230	Interior Live Oak	2	13,11	30	Fair-Good	Good
3231	Interior Live Oak	2	7,16	30	Fair-Poor	Poor
3232	Interior Live Oak	1	18	40	Fair-Good	Good
3233	Interior Live Oak	1	15	20	Fair	Fair
3234	Interior Live Oak	1	10	10	Fair	Poor
3235	Interior Live Oak	3	22,11,6	40	Fair-Good	Good
3236	Interior Live Oak	2	19,15	40	Fair-Good	Good
3237	Interior Live Oak	2	8,7	20	Fair	Fair
3238	Interior Live Oak	1	7	15	Fair	Fair
3239	Interior Live Oak	1	7	10	Fair-Poor	Poor

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
3240	Interior Live Oak	2	8,7	40	Fair	Fair
3241	Interior Live Oak	1	9	15	Fair	Poor
3242	Valley Oak	1	10	20	Fair	Fair
3243	Interior Live Oak	1	9	30	Fair-Good	Good
3251	Interior Live Oak	1	9	20	Fair	Poor
3252	Interior Live Oak	1	11	25	Fair	Fair
3253	Interior Live Oak	1	12	20	Fair	Fair
3343	Valley Oak	1	12	15	Poor	Poor
3344	Interior Live Oak	1	8	20	Fair	Fair-Poor
3345	Valley Oak	1	9	15	Fair	Poor
3346	Valley Oak	1	6	5	Fair-Poor	Poor
3347	Valley Oak	1	13	20	Fair	Fair
3348	Interior Live Oak	4	9,10,7,6	30	Fair	Good
3349	Interior Live Oak	1	9	10	Fair	Poor
3350	Interior Live Oak	2	9,6	20	Fair	Fair
3351	Interior Live Oak	2	10,8	10	Fair	Poor
3352	Interior Live Oak	1	8	10	Fair	Poor
3353	Interior Live Oak	2	7,6	10	Fair	Poor
3354	Interior Live Oak	5	11,10,6,6,7	25	Fair	Fair
3355	Interior Live Oak	1	12	20	Fair	Good
3356	Interior Live Oak	1	9	10	Fair	Fair
3358	Interior Live Oak	5	9,13,4,4,6	50	Fair-Good	Good
3359	Interior Live Oak	3	7,7,7	30	Fair	Good
3360	Interior Live Oak	1	11	20	Fair-Good	Good
3361	Interior Live Oak	1	7	15	Fair	Poor
3362	Interior Live Oak	3	6,6	20	Fair	Poor
3364	Interior Live Oak	5	9,6,6,3,3	25	Fair	Fair
3377	Interior Live Oak	1	6	10	Fair-Poor	Poor
3378	Interior Live Oak	2	12,12	30	Fair-Good	Good
3379	Interior Live Oak	1	9	20	Fair	Fair
3380	Interior Live Oak	1	8	20	Fair	Fair
3396	Interior Live Oak	1	6	10	Fair-Poor	Poor
3397	Interior Live Oak	2	8,4	15	Fair	Poor
3399	Interior Live Oak	1	10	25	Fair	Fair
4045	Interior Live Oak	2	11,16	25	Fair	Fair
4501	Valley Oak	1	8	10	Fair	Poor
4502	Interior Live Oak	1	14	20	Fair-Good	Good
4503	Valley Oak	1	13	12	Fair	Fair
4504	Valley Oak	1	7	8	Fair	Poor
4601	Interior Live Oak	1	7	15	Fair	Fair
4602	Valley Oak	1	7	10	Fair	Poor
4603	Interior Live Oak	1	7	15	Fair	Fair
4604	Valley Oak	2	15,12	25	Fair	Good

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
4605	Interior Live Oak	2	9,4	10	Fair	Fair
4606	Valley Oak	1	7	10	Fair-Poor	Poor
4607	Interior Live Oak	4	7,4,4,3	15	Fair	Good
4608	Valley Oak	1	17	30	Fair	Good
4609	Valley Oak	1	7	12	Fair-Good	Good
4610	Valley Oak	1	6	10	Fair	Fair
4611	Valley Oak	1	6	5	Fair	Poor
4612	Valley Oak	1	7	10	Fair	Fair
4613	Interior Live Oak	1	7	12	Fair-Good	Fair
4614	Interior Live Oak	5	7,4,4,4,4	25	Fair	Fair
4615	Valley Oak	1	7	10	Fair	Poor
4616	Interior Live Oak	2	7,7	15	Fair-Poor	Poor
4617	Interior Live Oak	3	9,7,7	15	Fair	Fair-Good
4618	Valley Oak	1	8	15	Fair	Fair
4619	Interior Live Oak	1	7	10	Fair	Fair
4620	Valley Oak	1	7	8	Fair	Fair
4621	Interior Live Oak	2	6,5	15	Fair-Good	Good
4622	Interior Live Oak	1	7	10	Fair	Fair
4623	Interior Live Oak	1	7	15	Fair-Poor	Good
4624	Interior Live Oak	1	6	10	Fair	Poor
4625	Valley Oak	1	6	8	Fair	Poor
4626	Valley Oak	1	9	15	Fair	Good
4627	Valley Oak	1	9	15	Fair	Good
4628	Interior Live Oak	2	6,4	15	Fair	Fair
4629	Valley Oak	1	9	15	Fair	Fair
4630	Valley Oak	1	9	20	Fair	Fair
4631	Interior Live Oak	1	10	15	Fair	Good
4632	Interior Live Oak	1	7	10	Fair	Fair
4633	Interior Live Oak	1	7	10	Fair	Poor
4634	Interior Live Oak	1	6	15	Fair-Poor	Poor
4635	Interior Live Oak	1	7	10	Fair	Poor
4636	Interior Live Oak	1	7	15	Fair	Fair
4637	Interior Live Oak	1	20	8	Poor	Poor
4638	Interior Live Oak	1	6	10	Fair	Fair
4639	Valley Oak	1	7	10	Fair	Fair
4642	Interior Live Oak	1	6	12	Fair	Fair
4644	Interior Live Oak	2	8,8	20	Fair-Poor	Poor
4645	Interior Live Oak	2	7,5	10	Fair	Poor
4647	Interior Live Oak	1	7	10	Fair-Poor	Poor
4648	Interior Live Oak	2	10,8	20	Fair	Fair
4649	Interior Live Oak	2	7,6	10	Fair	Fair
4650	Interior Live Oak	2	10,6	10	Fair	Poor
4651	Interior Live Oak	2	8,6	15	Fair	Fair

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
4652	Valley Oak	1	8	10	Fair-Poor	Poor
4653	Interior Live Oak	1	7	15	Fair	Fair
4654	Interior Live Oak	2	7,3	10	Fair	Fair
4655	Interior Live Oak	2	8,5	15	Fair	Fair
4656	Interior Live Oak	1	9	15	Fair	Fair
4657	Interior Live Oak	1	10	12	Fair	Fair
4658	Interior Live Oak	2	7,4	10	Fair	Poor
4659	Interior Live Oak	1	7	12	Fair	Fair
4660	Interior Live Oak	2	7,7	17	Fair-Good	Good
4661	Valley Oak	1	6	10	Fair-Poor	Poor
4671	Interior Live Oak	2	6,6	15	Fair-Poor	Poor
5000	Interior Live Oak	1	6	15	Fair	Poor
5001	Interior Live Oak	1	8	20	Fair-Good	Good
B2	Valley Oak	1	33	50	Fair-Good	Good
B4	Valley Oak	1	7	10	Fair	Fair
B5	Valley Oak	2	14,13	20	Fair	Good
B7	Valley Oak	2	12,6	15	Fair	Fair-Poor
B8	Valley Oak	1	12	15	Fair	Fair
B9	Valley Oak	1	12	20	Fair	Fair
B10	Valley Oak	1	23	30	Fair	Good
B11	Valley Oak	2	16,13	25	Fair	Fair
B12	Interior Live Oak	1	16	20	Fair	Good
B14	Valley Oak	1	12	30	Fair	Good
B15	Valley Oak	2	11,6	20	Fair	Fair
B16	Valley Oak	1	16	30	Fair-Good	Good
B17	Interior Live Oak	2	18,23	25	Fair	Good
B18	Interior Live Oak	1	23	30	Fair	Good
B20	Valley Oak	1	17	25	Fair	Good
B21-C	Valley Oak	1	22	25	Fair	Good
B22	Valley Oak	1	14	15	Fair	Fair
B23	Valley Oak	1	11	15	Fair	Fair
B24	Valley Oak	1	8	15	Fair	Fair
B25	Valley Oak	1	11	15	Fair	Fair
B26	Valley Oak	1	10	12	Fair	Fair
B27	Valley Oak	2	15,14	25	Fair	Good
B29	Valley Oak	1	14	20	Fair	Fair
B30	Valley Oak	1	15	30	Fair	Fair-Good
B31	Valley Oak	2	16,14	40	Fair	Good
B32	Valley Oak	1	12	25	Fair	Good
B33	Valley Oak	1	16	40	Fair-Good	Good
B34	Valley Oak	1	12	10	Fair	Poor
B35	Valley Oak	1	11	20	Fair	Fair
B36	Valley Oak	1	10	15	Fair	Fair

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B37	Valley Oak	1	14	30	Fair	Good
B38	Valley Oak	1	13	12	Fair	Fair
B39	Valley Oak	1	9	10	Fair-Poor	Poor
B40	Interior Live Oak	1	9	15	Fair	Fair
B41	Valley Oak	1	10	15	Fair	Fair
B42	Valley Oak	3	12,11,6	30	Fair	Fair
B43	Interior Live Oak	2	12,10	40	Fair-Good	Good
B44	Interior Live Oak	1	10	20	Fair	Fair
B45	Interior Live Oak	2	12,10	30	Fair	Good
B46	Interior Live Oak	2	9,8	20	Fair	Fair
B47	Valley Oak	1	12	15	Fair	Fair
B48	Valley Oak	1	12	15	Fair	Fair
B50	Valley Oak	1	12	20	Fair	Fair
B51	Valley Oak	1	12	10	Fair-Poor	Poor
B52	Valley Oak	2	10,10	15	Fair	Fair
B54	Valley Oak	1	7	10	Fair	Poor
B55	Valley Oak	1	6	5	Fair-Poor	Poor
B56	Valley Oak	1	7	10	Fair	Poor
B57	Valley Oak	1	9	10	Fair	Poor
B59	Valley Oak	1	6	10	Fair-Poor	Poor
B60	Valley Oak	2	8,8	15	Fair	Fair
B61	Valley Oak	1	10	15	Fair	Fair
B62	Valley Oak	1	10	10	Fair-Poor	Poor
B63	Valley Oak	1	8	10	Fair	Poor
B64	Interior Live Oak	3	9,7,5	20	Fair	Fair
B65	Valley Oak	1	12	30	Fair-Good	Good
B66	Valley Oak	1	15	20	Fair	Fair-Good
B67	Valley Oak	1	9	10	Fair	Poor
B68	Valley Oak	1	12	10	Fair	Poor
B69	Valley Oak	1	10	10	Fair	Poor
B70	Valley Oak	2	15,9	20	Fair	Fair
B71	Valley Oak	2	9,4	15	Fair	Poor
B72	Valley Oak	1	10	15	Fair	Poor
B73	Valley Oak	2	13,6	20	Fair	Fair
B74	Valley Oak	1	13	15	Fair	Fair
B75	Valley Oak	2	13,7	25	Fair	Good
B76	Valley Oak	1	11	15	Fair	Fair
B77	Valley Oak	1	12	15	Fair	Fair-Good
B78	Valley Oak	1	15	30	Fair-Good	Good
B79	Valley Oak	1	14	25	Fair-Good	Good
B80	Interior Live Oak	1	15	30	Fair-Good	Good
B81	Valley Oak	2	9,7	10	Fair	Fair
B82	Interior Live Oak	1	13	20	Fair	Fair

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B84	Valley Oak	1	10	15	Fair	Fair
B85	Interior Live Oak	1	11	15	Fair	Fair
B86	Interior Live Oak	1	12	15	Fair-Good	Fair
B87	Interior Live Oak	2	15,14	30	Fair	Good
B88	Interior Live Oak	3	10,7,8	25	Fair	Good
B89	Interior Live Oak	4	11,10,9,8	25	Fair	Good
B90	Valley Oak	1	13	20	Fair	Fair-Good
B91	Valley Oak	2	12,10	20	Fair	Good
B92	Interior Live Oak	2	12,12	15	Fair	Good
B93	Interior Live Oak	5	13,13,11,10,9	30	Fair	Good
B94	Interior Live Oak	1	10	15	Fair-Good	Good
B95	Interior Live Oak	1	25	25	Fair	Good
B96	Interior Live Oak	4	14,14,6,14	25	Fair	Good
B97	Valley Oak	1	14	30	Fair-Good	Good
B98	Valley Oak	1	16	30	Fair-Good	Good
B99	Valley Oak	1	14	30	Fair-Good	Good
B100	Valley Oak	1	13	20	Fair	Good
B101	Valley Oak	1	13	20	Fair	Good
B102	Valley Oak	1	19	30	Fair	Good
B103	Valley Oak	1	22	40	Fair-Good	Good
B104	Valley Oak	1	16	40	Fair	Good
B105	Valley Oak	1	15	20	Fair-Good	Fair-Good
B106	Interior Live Oak	3	14,12,12	40	Fair-Good	Good
B107	Valley Oak	1	17	30	Fair	Good
B108	Valley Oak	1	16	40	Fair-Good	Good
B110	Valley Oak	1	12	15	Fair	Fair-Good
B111	Valley Oak	1	8	15	Fair	Fair
B112	Valley Oak	1	13	25	Fair	Good
B113	Valley Oak	1	18	40	Fair-Good	Good
B114	Valley Oak	1	14	20	Fair	Fair
B115	Valley Oak	1	10	20	Fair-Good	Good
B116	Valley Oak	1	10	10	Fair	Fair
B117	Valley Oak	1	13	20	Fair	Fair
B118	Valley Oak	2	12,8	30	Fair	Good
B119	Valley Oak	1	15	40	Fair	Good
B120	Valley Oak	1	20	50	Fair	Fair
B121	Interior Live Oak	1	8,8,6	30	Fair-Good	Good
B122	Interior Live Oak	1	17	25	Fair	Good
B123	Valley Oak	4	12,10,7,9	50	Fair	Good
B124	Valley Oak	1	10	20	Fair	Fair-Good
B125	Valley Oak	1	16	30	Fair-Good	Good
B126	Valley Oak	1	16	30	Fair	Good
B127	Valley Oak	1	16	30	Fair-Good	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B128	Valley Oak	2	13,9	25	Fair	Good
B129	Valley Oak	1	24	40	Fair-Good	Good
B130	Valley Oak	1	18	25	Fair	Good
B131	Interior Live Oak	2	11,14	40	Fair	Good
B132	Valley Oak	1	11	15	Fair-Good	Good
B133	Interior Live Oak	1	14	20	Fair-Poor	Fair
B134	Interior Live Oak	1	14	20	Fair-Poor	Good
B135	Valley Oak	1	10	12	Fair-Poor	Poor
B136	Valley Oak	2	9,8	10	Fair-Poor	Poor
B140	Interior Live Oak	2	19,15	45	Fair-Good	Good
B141	Valley Oak	1	13	25	Fair	Good
B142	Valley Oak	2	10,7	20	Fair	Good
B143	Interior Live Oak	4	16,14,10,10	40	Fair	Good
B144	Interior Live Oak	5	10,10,12,5,7	40	Fair	Good
B145	Interior Live Oak	4	20,11,5,5	40	Fair-Good	Good
B146	Interior Live Oak	2	20,12	35	Fair-Good	Good
B147	Valley Oak	1	23	50	Good	Good
B148	Valley Oak	1	10	12	Fair	Fair
B149	Valley Oak	1	25	40	Fair-Good	Good
B150	Valley Oak	1	17	30	Fair-Good	Good
B152	Interior Live Oak	3	16,12,8	30	Fair-Good	Good
B152	Valley Oak	1	9	20	Fair	Fair
B153	Interior Live Oak	2	10,8	20	Fair	Fair
B154	Interior Live Oak	1	8	10	Fair	Poor
B155	Valley Oak	1	12	20	Fair	Good
B156	Valley Oak	1	13	20	Fair	Good
B157	Valley Oak	1	12	15	Fair	Fair
B158	Interior Live Oak	4	10,10,7,10	30	Fair	Good
B159	Valley Oak	2	9,13	20	Fair	Fair
B160	Valley Oak	1	12	25	Fair-Good	Good
B161	Interior Live Oak	3	12,14,9	30	Fair	Good
B162	Valley Oak	1	7	15	Fair	Fair
B163	Valley Oak	1	8	10	Fair	Fair
B164	Interior Live Oak	3	12,10,7	25	Fair	Good
B165	Valley Oak	1	16	35	Fair	Fair-Good
B167	Interior Live Oak	2	25,9	25	Fair	Good
B168	Interior Live Oak	4	16,18,11,12	30	Fair	Good
B169	Valley Oak	3	10,7,7	20	Fair	Fair
B170	Valley Oak	1	16	25	Fair-Good	Good
B171	Valley Oak	1	10	10	Fair	Fair
B172	Valley Oak	1	14	30	Fair	Good
B173	Valley Oak	1	17	40	Fair	Good
B174	Interior Live Oak	2	24,7	40	Fair-Good	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B175	Interior Live Oak	2	23,6	40	Fair	Good
B176	Interior Live Oak	6	7,7,7,6,4,3	20	Fair	Good
B177	Interior Live Oak	2	22,11	35	Fair-Good	Good
B178	Valley Oak	1	13	30	Fair	Fair-Good
B179	Interior Live Oak	3	14,14,7	30	Fair	Good
B180	Interior Live Oak	3	9,5,4	20	Fair	Good
B181	Valley Oak	1	15	20	Fair	Good
B183	Valley Oak	2	10,4	15	Fair	Fair-Good
B184	Interior Live Oak	4	14,14,8,12	40	Fair	Good
B185	Interior Live Oak	1	15	20	Fair-Good	Good
B186	Interior Live Oak	2	14,14	30	Fair	Good
B187	Interior Live Oak	3	19,10,10	40	Fair	Good
B188	Interior Live Oak	3	10,6,6	30	Fair	Good
B189	Interior Live Oak	2	18,16	40	Fair	Good
B190	Interior Live Oak	4	14,6,9,8	25	Fair	Good
B191	Interior Live Oak	2	22,9	25	Fair	Good
B192	Interior Live Oak	3	13,12,12	30	Fair	Good
B193	Interior Live Oak	2	21,23	30	Fair	Good
B194	Interior Live Oak	2	14,13	30	Fair	Good
B195	Interior Live Oak	2	9,3	10	Fair	Fair
B196	Interior Live Oak	2	17,7	20	Fair	Good
B197	Interior Live Oak	4	18,14,14,10	30	Fair	Good
B198	Interior Live Oak	2	14,14	30	Fair	Good
B199	Interior Live Oak	2	16,9	30	Fair	Good
B200	Interior Live Oak	3	16,10,10	25	Fair	Good
B201	Interior Live Oak	4	9,7,7,6	30	Fair-Good	Good
B202	Interior Live Oak	1	14	20	Fair-Good	Good
B203	Interior Live Oak	3	13,12,10	25	Fair	Good
B204	Interior Live Oak	4	12,10,7,8	20	Fair	Good
B205	Interior Live Oak	2	16,6	40	Fair-Good	Good
B206	Interior Live Oak	3	10,10,7	20	Fair	Good
B207	Interior Live Oak	2	15,10	25	Fair	Good
B208	Interior Live Oak	2	16,11	30	Fair	Good
B209	Interior Live Oak	4	11,11,3,10	35	Fair	Good
B210	Interior Live Oak	2	18,16	30	Fair	Good
B211	Valley Oak	1	17	35	Fair	Fair-Good
B212	Interior Live Oak	2	16,12	25	Fair	Good
B213	Valley Oak	1	21	15	Fair	Fair
B214	Interior Live Oak	2	13,7	30	Fair	Good
B215	Interior Live Oak	3	9,8,7	25	Fair	Good
B216	Interior Live Oak	4	17,12	30	Fair	Good
B217	Interior Live Oak	2	14,13	30	Fair	Good
B218	Interior Live Oak	1	16	30	Fair	Good

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B219	Interior Live Oak	1	14	20	Fair	Fair
B220	Interior Live Oak	1	14	10	Fair	Fair
B221	Interior Live Oak	1	8	10	Fair	Fair
B222	Interior Live Oak	3	20,11,12	30	Fair	Good
B223	Interior Live Oak	1	9	15	Fair	Fair
B224	Interior Live Oak	3	9,9,8	20	Fair	Fair
B225	Interior Live Oak	1	14	20	Fair-Good	Good
B226	Interior Live Oak	1	12	15	Fair	Fair
B227	Interior Live Oak	2	8,6	10	Fair	Fair
B228	Interior Live Oak	4	8,7,7,6	20	Fair-Poor	Fair
B229	Valley Oak	2	12,9	20	Fair-Good	Fair
B230	Interior Live Oak	5	11,8,6,6,10	20	Fair	Good
B231	Interior Live Oak	4	18,18,5,5	40	Fair	Good
B232	Valley Oak	1	10	15	Fair	Fair
B233	Valley Oak	1	17	30	Fair	Good
B234	Valley Oak	1	13	25	Fair-Good	Good
B235	Interior Live Oak	5	9,7,5,5,4	10	Fair	Fair-Poor
B236	Valley Oak	1	10	20	Fair	Fair-Good
B237	Interior Live Oak	2	13,13	35	Fair	Good
B238	Interior Live Oak	2	8,6	20	Fair-Good	Fair-Good
B239	Interior Live Oak	2	9,9	30	Fair	Good
B240	Interior Live Oak	3	16,12,9	40	Fair-Good	Good
B241	Valley Oak	1	11	20	Fair-Good	Good
B242	Valley Oak	1	10	15	Fair	Fair
B243	Interior Live Oak	3	7,6,5	25	Fair	Good
B244	Interior Live Oak	2	14,13	30	Fair	Good
B245	Valley Oak	1	14	25	Fair	Good
B246	Interior Live Oak	4	12,12,6,7	30	Fair	Good
B247	Valley Oak	1	14	25	Fair	Good
B248	Valley Oak	1	13	20	Fair	Fair
B250	Valley Oak	1	12	20	Fair-Poor	Fair
B251	Interior Live Oak	3	17,14,12	30	Fair	Good
B252	Valley Oak	1	12	25	Fair	Good
B253	Valley Oak	1	10	15	Fair	Fair-Good
B254	Valley Oak	1	12	25	Fair-Good	Good
B255	Interior Live Oak	1	17	25	Fair-Good	Good
B257	Interior Live Oak	1	11	20	Fair	Good
B258	Interior Live Oak	2	14,12	30	Fair	Good
B259	Interior Live Oak	1	14	20	Fair-Good	Fair
B260	Interior Live Oak	2	23	35	Fair-Good	Good
B261	Interior Live Oak	3	8,10,7	20	Fair	Good
B263	Valley Oak	2	9,6	10	Fair	Poor
B264	Valley Oak	1	12	20	Fair	Good

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B265	Valley Oak	1	11	20	Fair	Fair
B265	Valley Oak	1	11	25	Fair	Fair
B266	Interior Live Oak	3	13,6,5	30	Fair-Good	Good
B267	Interior Live Oak	3	8,7,6	30	Fair-Good	Good
B268	Interior Live Oak	2	16,5	15	Fair	Fair
B269	Valley Oak	1	12	20	Fair-Good	Good
B270	Valley Oak	2	8,7	15	Fair	Fair
B270	Valley Oak	2	9,8	20	Fair	Fair
B271	Interior Live Oak	2	16,8	30	Fair-Good	Good
B272	Valley Oak	1	17	30	Fair	Fair
B273	Interior Live Oak	3	14,11,12	30	Fair-Good	Good
B274	Valley Oak	1	14	15	Fair	Fair
B275	Valley Oak	1	10	20	Fair	Fair
B276	Interior Live Oak	2	10,8	30	Fair	Good
B277	Interior Live Oak	4	12,6,7,8	40	Fair	Good
B278	Interior Live Oak	6	13,8,8,9,15,10	50	Fair-Good	Good
B279	Interior Live Oak	1	19	30	Fair-Good	Good
B280	Interior Live Oak	1	16	30	Fair	Good
B281	Interior Live Oak	2	15,10	20	Fair	Fair
B282	Interior Live Oak	4	10,8,7,4	20	Fair	Fair
B283	Interior Live Oak	1	10	15	Fair	Fair-Poor
B284	Valley Oak	1	9	10	Fair	Poor
B285	Interior Live Oak	1	12	20	Fair	Fair
B286	Interior Live Oak	2	13,8	25	Fair-Poor	Poor
B301	Valley Oak	1	12	20	Fair	Fair
B302	Valley Oak	2	7,7	10	Fair	Fair
B309	Interior Live Oak	4	13,10,10,10	50	Fair	Good
B310	Interior Live Oak	3	8,6,5	25	Fair	Good
B312	Interior Live Oak	3	7,4,4	15	Fair-Poor	Poor
B319	Interior Live Oak	1	11	10	Fair	Poor
B320	Interior Live Oak	3	14,10,8	30	Fair	Fair
B321	Valley Oak	2	12,13	30	Fair	Good
B322	Interior Live Oak	5	7,5,5,4,4	20	Fair	Fair
B323	Interior Live Oak	2	10,10	20	Fair	Good
B324	Interior Live Oak	2	15,12	30	Fair	Good
B325	Interior Live Oak	1	10	30	Fair	Good
B326	Interior Live Oak	1	13	30	Fair	Good
B327	Valley Oak	1	9	10	Fair-Poor	Poor
B328	Interior Live Oak	3	15,13,13	40	Fair	Good
B329	Interior Live Oak	2	9,6	15	Fair	Fair
B330	Valley Oak	1	11	15	Fair	Fair
B337	Interior Live Oak	2	15,10	25	Fair	Fair
B338	Interior Live Oak	2	23,13	30	Fair	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B339	Interior Live Oak	6	14,14,12,12,12,10	40	Fair	Good
B343	Interior Live Oak	2	13,7	30	Fair	Fair
B344	Interior Live Oak	3	19,12,6	30	Fair	Fair
B368	Valley Oak	2	8,9	15	Fair	Fair
B370	Valley Oak	1	26	50	Fair	Good
B371	Valley Oak	1	22	50	Fair-Good	Good
B372	Valley Oak	1	13	30	Fair-Good	Good
B373	Valley Oak	1	10	20	Fair	Fair
B374	Valley Oak	2	9,8	15	Fair	Fair
B375	Valley Oak	3	10,8,6	15	Fair	Fair
B376	Valley Oak	1	23	15	Fair	Poor
B377	Interior Live Oak	1	9	10	Fair-Poor	Fair
B379	Valley Oak	1	14	20	Fair	Fair
B380	Valley Oak	1	10	10	Fair	Fair
B381	Interior Live Oak	5	12,8,3,4,5	35	Fair	Good
B383	Interior Live Oak	2	14,9	30	Fair	Fair-Good
B384	Interior Live Oak	1	9	20	Fair	Fair
B385	Interior Live Oak	1	14	10	Fair	Fair
B386	Valley Oak	1	8	10	Fair	Poor
B387	Interior Live Oak	1	15	25	Fair	Fair
B388	Valley Oak	1	13	15	Fair	Fair
B389	Valley Oak	1	14	20	Fair	Fair
B390	Valley Oak	1	18	35	Fair-Good	Fair
B392	Valley Oak	1	14	25	Fair	Fair
B393	Valley Oak	1	13	15	Fair	Fair
B394	Valley Oak	2	9,5	15	Fair	Fair-Poor
B395	Interior Live Oak	2	10,4	20	Fair	Fair
B396	Interior Live Oak	1	8	10	Fair-Poor	Poor
B397	Interior Live Oak	4	13,10,10,4	40	Fair-Good	Good
B398	Valley Oak	1	16	35	Fair-Good	Good
B399	Interior Live Oak	1	16	35	Fair	Good
B400	Valley Oak	1	10	15	Fair	Poor
B401	Valley Oak	1	17	10	Fair	Poor
B403	Valley Oak	1	14	10	Fair	Poor
B404	Valley Oak	1	8	5	Poor	Poor
B405	Interior Live Oak	2	9,8	20	Fair	Fair
B406	Interior Live Oak	1	9	10	Fair	Fair
B407	Valley Oak	1	12	20	Fair	Fair
B408	Valley Oak	1	10	15	Fair	Fair
B409	Valley Oak	1	9	5	Poor	Poor
B410	Interior Live Oak	1	12	30	Fair-Good	Good
B411	Valley Oak	1	11	10	Fair	Poor
B412	Valley Oak	1	16	30	Fair	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B413	Interior Live Oak	3	9,6,8	25	Fair	Fair
B414	Valley Oak	1	15	20	Fair-Good	Good
B415	Valley Oak	1	12	15	Fair-Good	Fair
B416	Valley Oak	2	10,6	10	Fair	Poor
B418	Interior Live Oak	3	9,9,6	20	Fair	Fair
B419	Interior Live Oak	2	23,23	30	Fair	Good
B420	Blue Oak	1	21	40	Fair	Good
B421	Interior Live Oak	4	18,18,13,6	25	Fair	Good
B423	Interior Live Oak	1	22	25	Fair	Good
B424	Valley Oak	1	18	25	Fair	Good
B425	Valley Oak	1	20	30	Fair-Good	Good
B426	Valley Oak	1	20	30	Fair-Good	Good
B427	Valley Oak	1	11	10	Fair	Poor
B429	Interior Live Oak	1	14	30	Fair	Good
B430	Valley Oak	1	27	50	Fair-Good	Good
B431	Interior Live Oak	1	7,3	12	Fair	Fair
B432	Interior Live Oak	2	14,14	25	Fair	Good
B433	Interior Live Oak	1	10	5	Fair-Poor	Poor
B434	Interior Live Oak	2	12,9	15	Fair	Fair
B435	Interior Live Oak	1	22	30	Fair	Good
B436	Interior Live Oak	3	14,12,12	15	Poor	Poor
B437	Interior Live Oak	1	12	20	Fair	Good
B439	Interior Live Oak	1	8	15	Fair	Fair
B440	Interior Live Oak	1	9	8	Poor	Poor
B441	Valley Oak	1	10	20	Fair-Good	Good
B442	Valley Oak	1	13	15	Fair	Fair
B443	Valley Oak	1	12	15	Fair	Fair
B444	Interior Live Oak	3	8,6,5	15	Fair	Fair
B445	Interior Live Oak	1	8	10	Fair	Poor
B446	Interior Live Oak	2	12,6	12	Fair	Fair
B447	Interior Live Oak	1	18	10	Fair-Poor	Poor
B449	Interior Live Oak	2	9,5	12	Fair	Fair
B450	Interior Live Oak	2	8,7	15	Fair	Fair
B452	Interior Live Oak	1	6	10	Fair	Poor
B455	Interior Live Oak	1	12	15	Fair	Fair
B456	Interior Live Oak	1	9	12	Fair	Fair
B457	Interior Live Oak	4	16,14,6,6	25	Fair	Good
B458	Interior Live Oak	1	17	25	Fair	Good
B459	Interior Live Oak	1	10	12	Fair	Fair
B460	Interior Live Oak	6	18,16,12,12,10,14	50	Fair	Good
B461	Interior Live Oak	1	27	50	Fair	Good
B463	Interior Live Oak	1	16	25	Fair	Fair
B464	Valley Oak	1	28	40	Fair-Good	Good

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Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B465	Valley Oak	2	14,14	10	Poor	Poor
B466	Valley Oak	1	6	8	Fair-Poor	Poor
B467	Interior Live Oak	1	10	20	Fair	Fair
B468	Blue Oak	2	18,9	30	Fair-Good	Good
B469	Blue Oak	1	17	20	Fair	Fair
B470	Interior Live Oak	3	29,13,9	55	Fair	Good
B471	Interior Live Oak	1	14	20	Fair	Fair
B473	Blue Oak	1	12	12	Fair	Poor
B474	Interior Live Oak	2	10,9	15	Fair	Fair
B475	Interior Live Oak	1	8	20	Fair	Poor
B476	Interior Live Oak	1	11	15	Fair	Fair
B477	Valley Oak	1	23	40	Fair-Good	Good
B479	Valley Oak	1	21	30	Fair	Fair-Good
B481	Interior Live Oak	1	32	60	Fair-Good	Good
B482	Valley Oak	1	18	25	Fair	Fair
B483	Interior Live Oak	3	22,14,14	30	Fair-Poor	Poor
B484	Interior Live Oak	3	20,18,14	40	Fair	Good
B485	Interior Live Oak	1	15	20	Fair-Good	Good
B486	Interior Live Oak	1	14	15	Fair	Fair
B487	Valley Oak	1	15	20	Fair	Fair
B489	Interior Live Oak	3	18,14,12	40	Fair	Good
B490	Interior Live Oak	1	23	10	Poor	Poor
B492	Valley Oak	1	10	10	Fair-Poor	Poor
B493	Valley Oak	1	15	15	Fair-Poor	Poor
B494	Valley Oak	1	16	10	Fair	Fair
B496	Valley Oak	1	17	10	Fair-Poor	Poor
B497	Interior Live Oak	1	17	30	Fair	Fair
B498	Valley Oak	1	9	15	Fair	Fair
B500	Interior Live Oak	3	16,8,8	30	Fair-Good	Good
B501	Valley Oak	1	7	10	Fair	Fair
B502	Valley Oak	2	8,8	20	Fair	Fair
B503	Valley Oak	1	8	10	Fair	Fair
B504	Valley Oak	1	11	25	Fair-Good	Good
B505	Valley Oak	1	14	20	Fair	Good
B506	Valley Oak	1	12	25	Fair-Good	Good
B507	Valley Oak	1	18	30	Fair-Good	Good
B508	Valley Oak	1	17	30	Fair-Poor	Good
B509	Valley Oak	1	18	30	Fair	Good
B510	Interior Live Oak	4	18,14,8,14	30	Fair	Good
B511	Valley Oak	1	13	20	Fair	Good
B512	Interior Live Oak	3	16,14,10	30	Fair	Good
B514	Interior Live Oak	1	25	35	Fair	Good
B515	Interior Live Oak	3	14,9,7	30	Fair	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B516	Interior Live Oak	5	17,12,10,10,5	30	Fair	Good
B517	Valley Oak	1	13	25	Fair-Good	Good
B518	Interior Live Oak	2	18,12	30	Fair	Good
B519	Interior Live Oak	2	20,7	30	Fair	Good
B520	Interior Live Oak	4	15,15,12,9	30	Fair	Good
B522	Valley Oak	1	10	25	Fair	Good
B524	Valley Oak	1	11	20	Fair	Good
B527	Valley Oak	1	34	50	Fair-Good	Good
B528	Valley Oak	1	15	30	Fair-Good	Good
B529	Valley Oak	1	15	40	Fair-Good	Good
B530	Interior Live Oak	6	12,10,6,15,5,10	40	Fair-Good	Good
B531	Valley Oak	2	10,9	30	Fair	Good
B532	Valley Oak	1	14	20	Fair	Fair
B533	Interior Live Oak	1	11	15	Fair-Good	Good
B534	Interior Live Oak	4	11,5,8,7	30	Fair-Good	Good
B535	Interior Live Oak	1	15	30	Fair-Good	Good
B536	Valley Oak	1	16	30	Fair	Good
B537	Interior Live Oak	4	11,12,9,12	40	Fair-Good	Good
B538	Interior Live Oak	6	12,9,11,6,13,6	40	Fair-Good	Good
B541	Interior Live Oak	2	17,12	25	Fair-Good	Good
B542	Valley Oak	1	10	10	Fair	Poor
B543	Interior Live Oak	2	12,8	20	Fair	Good
B545	Valley Oak	1	17	30	Fair	Fair
B546	Valley Oak	1	8	12	Fair	Fair
B547	Interior Live Oak	5	10,8,6,6,7	25	Fair-Good	Good
B548	Interior Live Oak	3	8,6,4	25	Fair	Good
B549	Interior Live Oak	3	12,11,7	40	Fair-Good	Good
B551	Valley Oak	1	11	30	Fair	Fair
B552	Interior Live Oak	2	14,8	30	Fair	Good
B553	Interior Live Oak	3	16,6,6	30	Fair-Good	Good
B554	Interior Live Oak	4	11,15,9,7	40	Fair-Good	Fair
B555	Valley Oak	1	12	20	Fair	Fair-Good
B556	Valley Oak	1	15	20	Fair	Fair-Good
B557	Valley Oak	1	9	20	Fair-Good	Fair-Good
B559	Valley Oak	1	14	30	Fair	Good
B560	Valley Oak	1	23	50	Fair-Good	Good
B561	Valley Oak	1	25	50	Fair-Good	Good
B562	Valley Oak	1	21	30	Fair	Fair
B563	Valley Oak	2	15,13	30	Fair-Poor	Poor
B564	Valley Oak	2	14,13	25	Fair-Poor	Poor
B565	Valley Oak	1	14	25	Fair	Good
B566	Valley Oak	2	16,11	30	Fair	Good
B568	Valley Oak	2	12,12	25	Fair	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B569	Valley Oak	1	10	12	Fair	Fair
B570	Valley Oak	1	11	15	Fair	Fair
B571	Valley Oak	2	13,12	25	Fair	Good
B572	Blue Oak	1	17	40	Fair-Good	Good
B573	Valley Oak	1	24	30	Poor	Poor
B574	Interior Live Oak	2	10,6	20	Fair-Poor	Fair
B575	Interior Live Oak	3	12,9,9	20	Fair	Fair
B576	Interior Live Oak	2	9,6	10	Fair-Poor	Poor
B577	Interior Live Oak	3	12,12,8	40	Fair	Good
B578	Interior Live Oak	2	7,6	10	Fair	Poor
B579	Interior Live Oak	4	18,16,6,8	30	Fair	Good
B580	Interior Live Oak	2	14,12	30	Fair	Good
B581	Interior Live Oak	2	9,6	20	Fair	Good
B584	Interior Live Oak	1	7	15	Fair	Fair
B585	Interior Live Oak	2	6,6	15	Fair	Fair
B586	Interior Live Oak	3	12,9,6	30	Fair-Good	Good
B587	Interior Live Oak	4	13,12,6,6	40	Fair	Good
B588	Interior Live Oak	2	13,7	15	Fair	Fair
B589	Valley Oak	1	12	15	Fair	Poor
B591	Interior Live Oak	1	7	5	Poor	Poor
B592	Interior Live Oak	2	23,17	60	Fair-Good	Good
B593	Interior Live Oak	2	17,20	25	Fair	Good
B594	Interior Live Oak	2	15,9	20	Fair	Fair
B596	Interior Live Oak	3	10,10,8	35	Fair	Good
B597	Interior Live Oak	2	16,14	20	Fair	Good
B598	Interior Live Oak	1	14	15	Fair	Fair
B599	Interior Live Oak	2	10,10	15	Fair-Poor	Poor
B600	Interior Live Oak	2	12,12	25	Fair-Poor	Poor
B602	Interior Live Oak	1	14	25	Fair	Good
B603	Valley Oak	1	15	25	Fair	Fair
B605	Interior Live Oak	2	7,6	15	Fair	Good
B606	Valley Oak	1	27	40	Fair	Good
B607	Valley Oak	1	17	10	Fair-Poor	Poor
B611	Interior Live Oak	1	15	15	Fair-Poor	Poor
B612	Valley Oak	1	12	15	Fair	Fair
B613	Interior Live Oak	2	12,14	20	Fair-Poor	Fair
B614	Interior Live Oak	1	24	40	Fair	Good
B615	Interior Live Oak	1	8	10	Fair	Poor
B616	Interior Live Oak	2	7,5	15	Fair	Fair
B617	Interior Live Oak	2	7,6	12	Fair	Fair
B618	Interior Live Oak	3	9,8,8	20	Fair	Good
B619	Interior Live Oak	1	8	10	Fair	Fair
B620	Interior Live Oak	3	14,12,9	20	Fair	Fair

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B621	Interior Live Oak	2	21,14	25	Fair	Fair
B623	Interior Live Oak	1	6	5	Poor	Poor
B624	Interior Live Oak	1	16	30	Fair	Good
B625	Interior Live Oak	4	13,13,10,9	30	Fair-Poor	Fair
B626	Interior Live Oak	2	12,5	25	Fair	Fair
B627	Interior Live Oak	4	14,14,9,9	25	Fair	Good
B628	Interior Live Oak	1	9	10	Fair	Poor
B629	Interior Live Oak	1	18	35	Fair-Poor	Fair
B630	Interior Live Oak	2	14,14	40	Fair	Good
B632	Valley Oak	1	26	40	Fair	Fair
B633	Valley Oak	1	13	20	Fair	Fair
B634	Valley Oak	2	27,24	50	Fair	Good
B635	Interior Live Oak	1	24	40	Fair	Good
B636	Valley Oak	1	9	10	Fair-Poor	Poor
B637	Valley Oak	1	14	20	Fair	Good
B638	Valley Oak	1	10	8	Fair-Poor	Poor
B639	Valley Oak	1	9	15	Fair	Fair
B641	Valley Oak	1	9	12	Fair	Fair
B642	Valley Oak	1	9	10	Fair	Poor
B643	Valley Oak	1	9	15	Fair	Fair
B644	Interior Live Oak	4	16,13,9,9	40	Fair	Good
B645	Interior Live Oak	2	12,6	25	Fair	Good
B646	Valley Oak	1	16	30	Fair	Good
B646	Valley Oak	1	10	15	Fair	Fair
B647	Valley Oak	1	12	15	Fair	Fair
B648	Valley Oak	1	14	25	Fair	Good
B649	Valley Oak	1	15	35	Fair	Good
B650	Valley Oak	1	9	25	Fair	Fair
B651	Valley Oak	1	9	15	Fair	Poor
B652	Interior Live Oak	1	23	35	Fair-Good	Good
B653	Interior Live Oak	2	12,10	20	Fair	Fair
B655	Valley Oak	1	10	20	Fair	Fair-Good
B656	Valley Oak	1	18	30	Fair	Good
B659	Valley Oak	1	32	40	Fair-Poor	Good
B661	Interior Live Oak	1	12	20	Fair-Good	Good
B662	Interior Live Oak	2	11,6	20	Fair	Good
B663	Valley Oak	1	14	25	Fair	Good
B664	Valley Oak	1	9	15	Fair	Fair
B665	Valley Oak	1	21	30	Fair	Good
B666	Valley Oak	1	13	15	Fair	Fair
B667	Valley Oak	1	18	30	Fair	Good
B668	Valley Oak	1	14	25	Fair	Good
B669	Valley Oak	1	9	15	Fair-Good	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B670	Valley Oak	1	16	30	Fair-Good	Good
B671	Valley Oak	1	7	10	Fair-Poor	Poor
B672	Valley Oak	1	13	20	Fair-Good	Good
B673	Interior Live Oak	1	10	15	Fair-Good	Good
B674	Interior Live Oak	2	18,18	40	Fair	Good
B675	Interior Live Oak	2	16,9	30	Fair	Good
B676	Interior Live Oak	1	10	15	Fair	Fair
B677	Interior Live Oak	1	16	20	Fair	Fair
B678	Interior Live Oak	3	13,9,6	30	Fair	Good
B4640	Interior Live Oak	1	6	12	Fair-Poor	Poor
B4001	Interior Live Oak	2	6,4	15	Fair	Fair
B4010	Interior Live Oak	1	6	10	Fair	Poor
B4011	Interior Live Oak	1	6	10	Fair	Fair
B4012	Interior Live Oak	1	6	10	Fair-Poor	Poor
B4013	Interior Live Oak	1	8	20	Fair	Good
B4014	Interior Live Oak	1	8	15	Fair	Good
B4015	Valley Oak	1	6	10	Fair	Poor
B4016	Valley Oak	1	7	10	Fair-Poor	Poor
B4017	Interior Live Oak	2	10,10	30	Fair	Good
B4018	Interior Live Oak	4	7,7,6,5	30	Fair	Good
B4019	Valley Oak	1	6	10	Fair	Poor
B4020	Valley Oak	1	7	8	Fair-Poor	Poor
B4021	Interior Live Oak	4	7,8,6,7	25	Fair	Good
B4022	Interior Live Oak	3	8,6,5	20	Fair	Good
B4023	Interior Live Oak	1	13	15	Fair	Good
B4024	Interior Live Oak	1	7	10	Fair	Fair
B4025	Interior Live Oak	1	6	10	Fair	Fair
B4026	Interior Live Oak	2	9,7	20	Fair	Good
B4027	Interior Live Oak	1	7	15	Fair	Good
B4028	Interior Live Oak	1	9	15	Fair	Fair
B4029	Interior Live Oak	3	8,6,5	15	Fair	Poor
B4030	Interior Live Oak	1	17	30	Fair	Fair
B4031	Interior Live Oak	1	8	20	Fair-Good	Good
B4032	Interior Live Oak	2	10,8	25	Fair	Fair
B4033	Interior Live Oak	1	8	15	Fair	Fair
B4034	Interior Live Oak	2	9,5	10	Fair-Poor	Poor
B4035	Interior Live Oak	2	12,12	40	Fair-Good	Good
B4036	Interior Live Oak	1	8	15	Fair	Fair
B4037	Valley Oak	1	11	15	Fair-Poor	Poor
B4038	Interior Live Oak	1	8	15	Fair-Good	Good
B4039	Interior Live Oak	2	11,8	25	Fair	Good
B4040	Valley Oak	1	11	15	Fair	Poor
B4041	Valley Oak	1	8	10	Fair-Poor	Poor

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B4042	Valley Oak	1	7	10	Fair	Fair-Good
B4043	Interior Live Oak	2	6,6	12	Fair-Good	Good
B4044	Interior Live Oak	2	8,5	15	Fair	Fair
B4045	Valley Oak	1	8	15	Fair	Good
B4046	Interior Live Oak	1	6	10	Fair	Poor
B4047	Interior Live Oak	5	8,5,5,5,4	20	Fair	Fair
B4048	Valley Oak	1	7	10	Fair	Fair
B4049	Interior Live Oak	2	7	15	Fair	Fair
B4050	Interior Live Oak	1	6	15	Fair	Fair
B4051	Valley Oak	1	13	25	Fair	Fair
B4052	Interior Live Oak	1	7	15	Fair-Good	Fair
B4053	Interior Live Oak	3	7,7,6	15	Fair	Poor
B4054	Interior Live Oak	1	7	15	Fair	Good
B4055	Valley Oak	2	7,7	15	Fair	Fair-Poor
B4056	Valley Oak	1	9	15	Fair	Fair
B4057	Interior Live Oak	4	10,8,7,6	25	Fair	Good
B4058	Valley Oak	1	7	10	Fair	Fair
B4059	Interior Live Oak	1	8	10	Fair	Fair
B4060	Valley Oak	1	12	20	Fair	Fair
B4061	Valley Oak	1	16	25	Fair-Good	Good
B4062	Interior Live Oak	4	12,10,9,4	25	Fair-Good	Fair
B4063	Interior Live Oak	2	12,7	30	Fair	Good
B4064	Valley Oak	3	8,7,5	15	Fair	Fair
B4067	Valley Oak	1	8	10	Fair	Fair
B4068	Valley Oak	1	8	15	Fair-Good	Fair
B4069	Valley Oak	2	8,8	10	Fair-Poor	Poor
B4070	Interior Live Oak	2	6,4	15	Fair-Poor	Fair
B4071	Valley Oak	1	7	15	Fair-Poor	Fair
B4072	Interior Live Oak	1	7	15	Fair-Good	Good
B4073	Valley Oak	1	10	15	Fair	Good
B4074	Valley Oak	1	11	15	Fair	Good
B4143	Valley Oak	1	13	20	Fair	Fair
B4144	Valley Oak	1	20	35	Fair	Good
B4145	Valley Oak	1	16	30	Fair	Good
B4146	Valley Oak	1	18	40	Fair	Good
B4147	Valley Oak	1	10	15	Fair	Fair
B4148	Valley Oak	1	10	15	Fair	Fair
B4149	Valley Oak	1	14	20	Fair-Good	Fair
B4150	Interior Live Oak	1	8	10	Fair	Fair
B4151	Valley Oak	1	7	12	Fair	Poor
B4155	Interior Live Oak	1	7	10	Fair	Poor
B4156	Interior Live Oak	1	6	10	Fair-Poor	Poor
B4157	Interior Live Oak	1	6	10	Fair-Poor	Poor

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B4158	Interior Live Oak	1	9	15	Fair	Fair
B4160	Interior Live Oak	2	18,14	40	Fair	Good
B4161	Valley Oak	1	6	8	Fair-Poor	Poor
B4163	Interior Live Oak	2	6,8	15	Fair	Poor
B4165	Valley Oak	1	7	8	Fair-Poor	Poor
B4166	Valley Oak	1	6	5	Fair-Poor	Poor
B4167	Valley Oak	1	6	6	Fair-Poor	Poor
B4168	Valley Oak	1	10	20	Fair	Fair
B4169	Valley Oak	1	8	10	Fair	Poor
B4170	Valley Oak	1	11	15	Fair	Fair
B4171	Valley Oak	1	10	10	Fair	Fair
B4173	Valley Oak	1	12	15	Fair	Poor
B4174	Valley Oak	1	9	10	Fair	Poor
B4178	Valley Oak	1	12	10	Fair	Poor
B4179	Valley Oak	1	10	10	Fair-Poor	Poor
B4180	Valley Oak	1	12	20	Fair-Poor	Poor
B4181	Valley Oak	1	10	10	Fair-Poor	Poor
B4182	Valley Oak	1	7	8	Fair-Poor	Poor
B4193	Valley Oak	1	6	10	Fair-Poor	Poor
B4194	Valley Oak	1	12	10	Fair	Poor
B4195	Valley Oak	1	11	8	Fair-Poor	Poor
B4196	Valley Oak	1	9	20	Fair	Poor
B4197	Valley Oak	1	13	25	Fair	Fair
B4198	Valley Oak	1	9	12	Fair	Fair
B4199	Valley Oak	2	12,6	10	Fair-Poor	Poor
B4200	Valley Oak	1	12	30	Fair	Fair-Good
B4204	Valley Oak	1	10	8	Fair-Poor	Poor
B4205	Valley Oak	1	24	30	Fair	Fair
B4225	Valley Oak	1	15	25	Fair	Fair
B4226	Valley Oak	1	11	15	Fair	Fair
B4227	Valley Oak	1	7	10	Fair-Poor	Poor
B4228	Valley Oak	1	18	30	Fair	Fair-Good
B4233	Valley Oak	1	8	10	Fair-Poor	Poor
B4239	Valley Oak	1	12	15	Fair-Poor	Fair
B4240	Valley Oak	1	12	15	Fair	Fair
B4242	Valley Oak	1	22	25	Fair	Fair-Good
B4244	Valley Oak	1	18	20	Fair	Fair
B4246	Valley Oak	1	22	20	Fair	Good
B4248	Interior Live Oak	1	7	8	Fair	Poor
B4249	Valley Oak	1	12	15	Fair-Poor	Poor
B4250	Interior Live Oak	1	13	8	Poor	Poor
B4251	Valley Oak	1	20	30	Fair	Good
B4252	Valley Oak	1	12	10	Fair-Poor	Poor

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B4253	Valley Oak	1	10	10	Fair-Poor	Poor
B4254	Valley Oak	1	25	30	Fair-Good	Good
B4255	Valley Oak	1	8	5	Poor	Poor
B4256	Valley Oak	1	23	25	Fair	Fair
B4258	Interior Live Oak	1	15	15	Fair-Poor	Poor
B4259	Valley Oak	1	7	5	Fair-Poor	Poor
B4260	Valley Oak	2	14,8	20	Fair	Fair
B4261	Valley Oak	2	12,4	10	Fair-Poor	Poor
B4262	Valley Oak	1	12	15	Fair	Fair
B4263	Valley Oak	1	14	20	Fair	Fair
B4264	Valley Oak	3	7,7,6	15	Fair-Poor	Poor
B4265	Valley Oak	2	7,4	10	Fair-Poor	Poor
B4266	Valley Oak	1	24	40	Fair	Fair
B4267	Valley Oak	1	10	13	Fair	Poor
B4268	Valley Oak	1	8	10	Fair-Poor	Poor
B4271	Valley Oak	1	12	15	Fair	Fair
B4273	Interior Live Oak	1	9	8	Fair-Poor	Poor
B4274	Valley Oak	1	23	30	Fair-Good	Good
B4275	Valley Oak	1	14	25	Fair	Fair
B4276	Valley Oak	1	8	8	Fair-Poor	Poor
B4278	Valley Oak	1	8	15	Fair	Fair
B4279	Valley Oak	1	8	15	Fair	Fair
B4366	Valley Oak	1	23	30	Fair-Good	Good
B4375	Valley Oak	1	9	10	Fair-Poor	Poor
B4376	Valley Oak	1	10	25	Fair	Good
B4377	Valley Oak	2	10,10	25	Fair	Poor
B4378	Valley Oak	1	8	10	Fair-Poor	Poor
B4379	Valley Oak	1	6	8	Fair-Poor	Poor
B4380	Valley Oak	1	12	20	Fair	Fair
B4381	Valley Oak	1	16	30	Fair	Fair
B4382	Valley Oak	1	9	15	Fair	Fair
B4383	Valley Oak	1	8	12	Fair	Fair
B4384	Valley Oak	1	9	10	Fair	Fair
B4385	Valley Oak	1	7	10	Fair	Good
B4387	Valley Oak	1	13	15	Fair	Fair
B4391	Valley Oak	1	30	60	Fair	Good
B4392	Interior Live Oak	2	10,3	15	Fair-Poor	Poor
B4394	Interior Live Oak	6	24,14,8,6,4,4	40	Fair	Fair
B4395	Interior Live Oak	1	6	5	Fair-Poor	Poor
B4397	Interior Live Oak	1	8	10	Fair-Poor	Poor
B4399	Interior Live Oak	1	7	8	Fair-Poor	Poor
B4490	Valley Oak	1	7	12	Fair	Poor
B4491	Valley Oak	1	16	30	Fair	Good

6201 Horseshoe Bar Road

Tree Survey Data

Tree #	Species	# of Trunks	DBH (inches)	DLR (feet)	Health	Structure
B4492	Valley Oak	1	17	40	Fair	Good
B4493	Interior Live Oak	1	9	15	Fair-Good	Good
B4494	Valley Oak	3	6,14,12	25	Fair	Good
B4495	Interior Live Oak	1	12	10	Fair-Poor	Poor
B4496	Valley Oak	1	12	15	Fair	Good
B4497	Valley Oak	1	23	25	Fair	Good
B4498	Interior Live Oak	2	9,4	20	Fair	Fair
B4499	Valley Oak	1	16	25	Fair	Fair
C526	Valley Oak	1	17	40	Fair-Good	Good

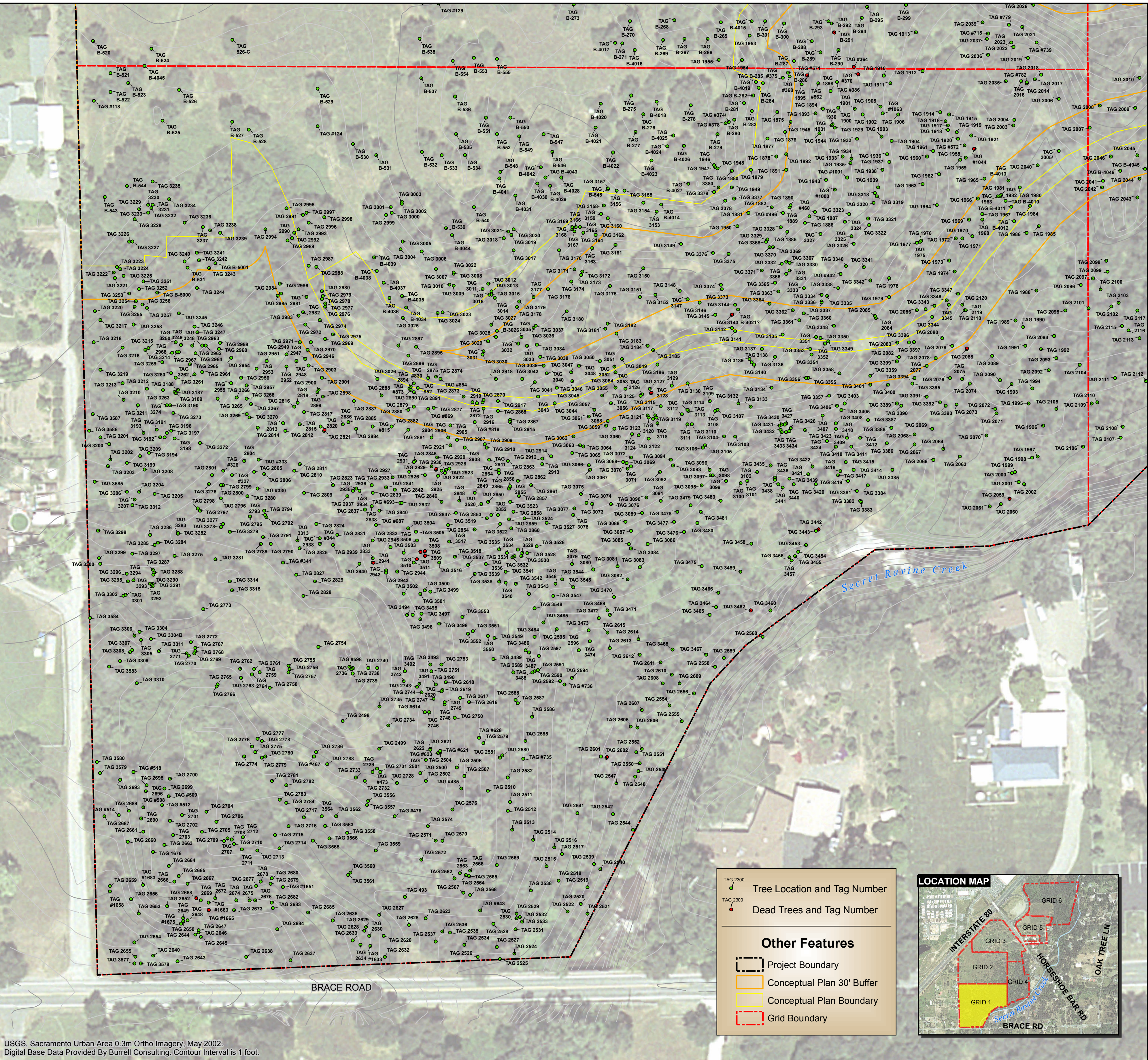
Appendix B — Dead Trees

6201 Horseshoe Bar Road Tree Survey Data

Tree #	Species
2294	DEAD
2422	DEAD
2442	DEAD
2447	DEAD
2973	DEAD
2978	DEAD
2988	DEAD
3008	DEAD
3028	DEAD
3039	DEAD
3143	DEAD
4500	DEAD
4505	DEAD
4557	DEAD
B49	DEAD
B58	DEAD
B391	DEAD
B428	DEAD
B438	DEAD
B451	DEAD
B454	DEAD
B488	DEAD
B491	DEAD
B495	DEAD
B558	DEAD
B567	DEAD
B604	DEAD
B631	DEAD
B4153	DEAD
B4162	DEAD
B4175	DEAD
B4201	DEAD
B4272	DEAD
B4372	DEAD
B4374	DEAD
B4396	DEAD
B4398	DEAD

Appendix C — Tree Locations Maps

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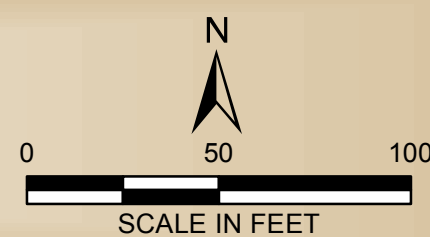


FOOTHILL ASSOCIATES

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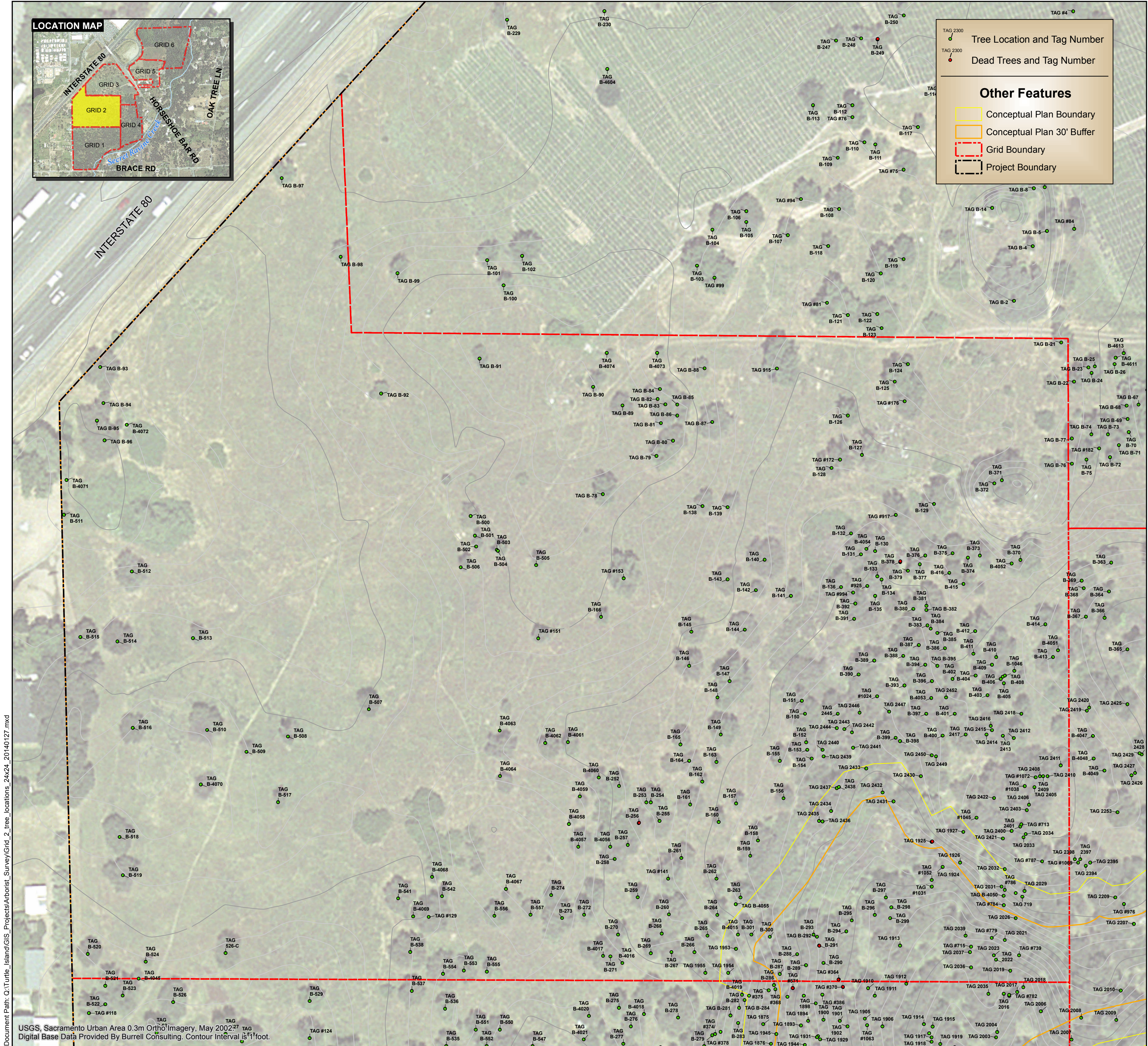
TREE LOCATIONS MAP - GRID 1

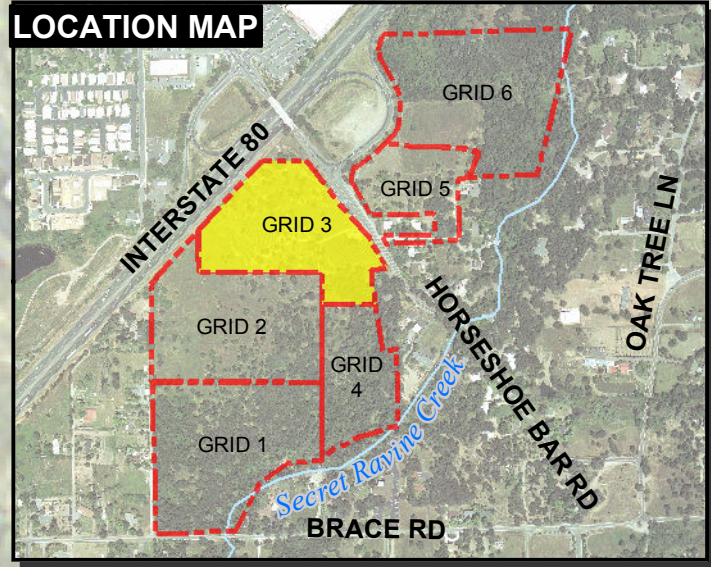


© 2014

Document Name: Grid_1_tree_locations_24x24_20140127

6201 HORSESHOE BAR ROAD





Document Path: C:\Turtle_Island\GIS_Projects\Arborist_Survey\Grid_3_tree_locations_24x24_20140127.mxd



USGS, Sacramento Urban Area 0.3m Ortho Imagery, May 2002.
Digital Base Data Provided By Burrell Consulting. Contour Interval is 1 foot.

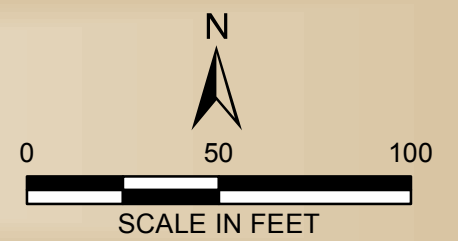


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LANDSCAPE ARCHITECTURE

(916) 435-1202

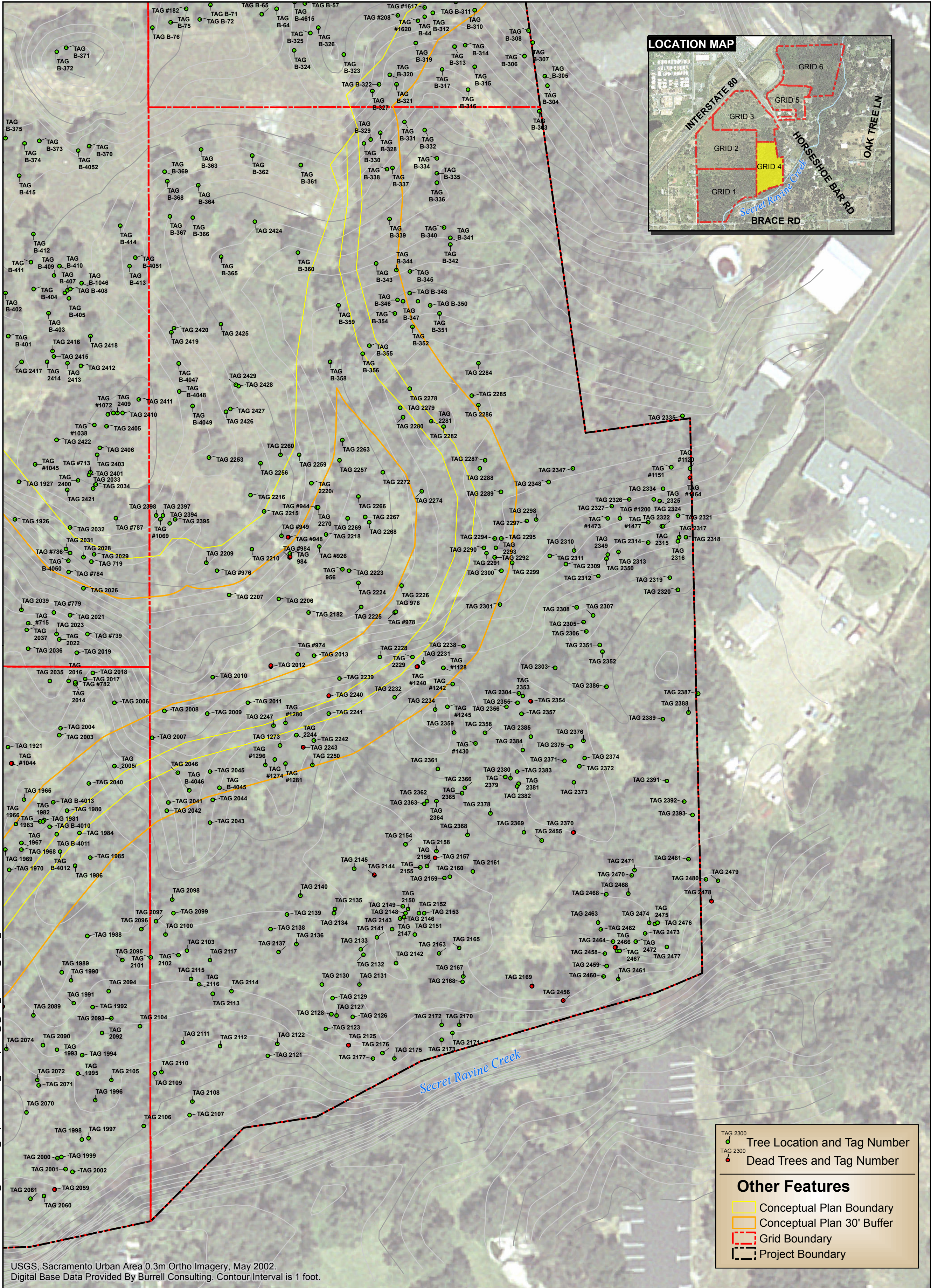
TREE LOCATIONS MAP - GRID 3



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6201 HORSESHOE BAR ROAD

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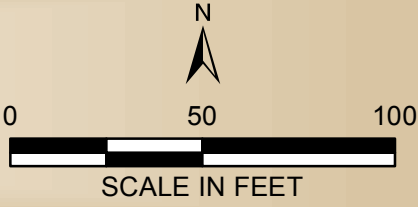


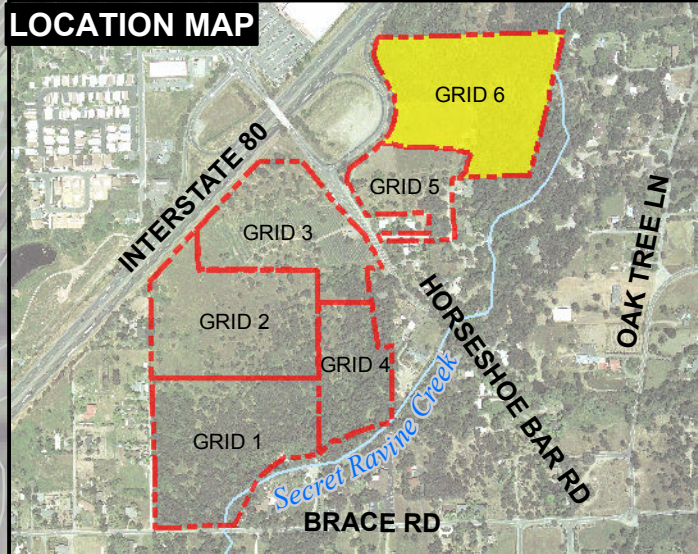
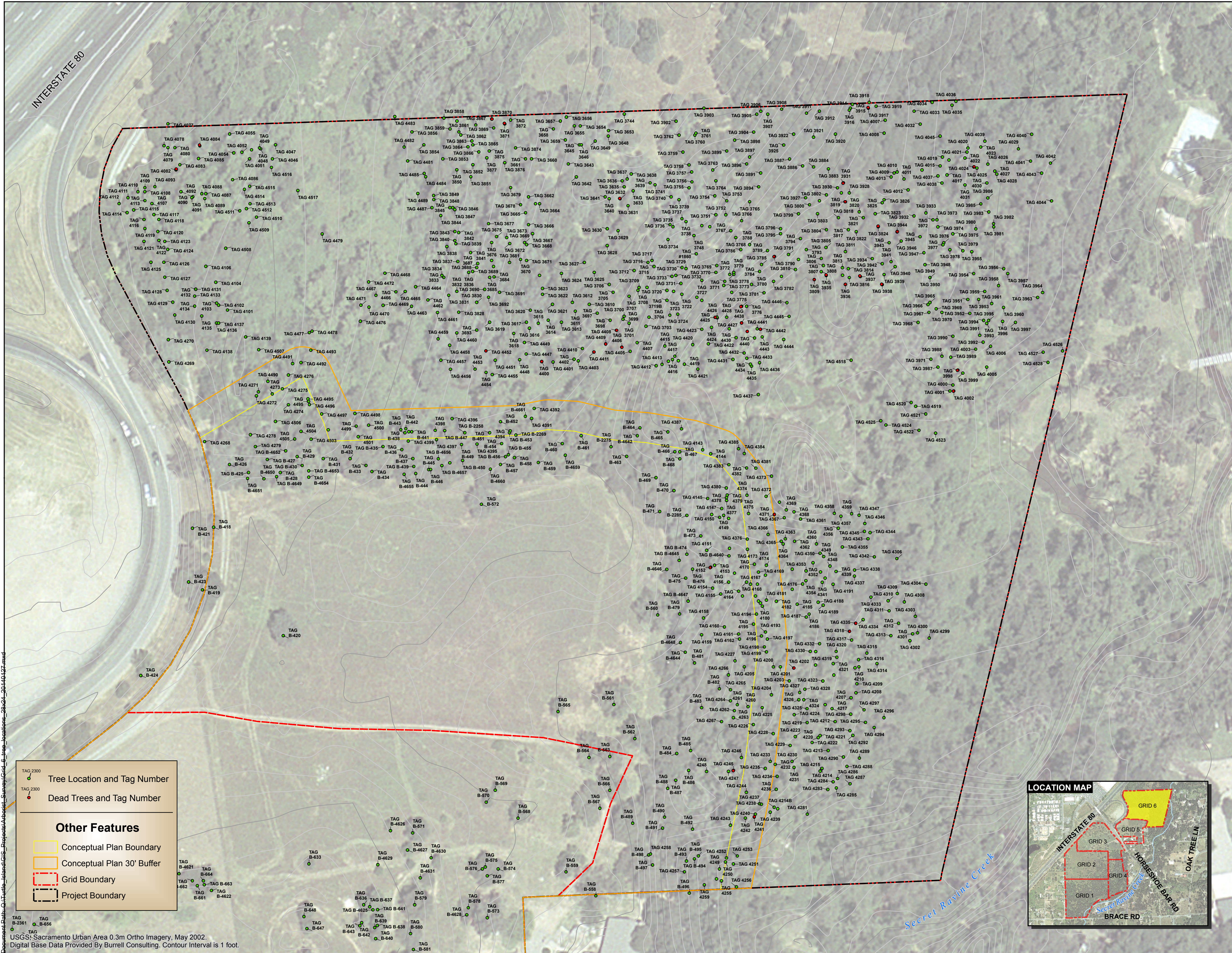
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USGS, Sacramento Urban Area 0.3m Ortho Imagery, May 2002.
Digital Base Data Provided By Burrell Consulting. Contour Interval is 1 foot.



TREE LOCATIONS MAP - GRID 4





Appendix C

Cultural Resources Report

Resource maps have been excluded to protect the listed resources; however, the complete report Cultural Resources Report is available for review on the website (http://www.loomis.ca.gov/loomis_projects.html) and at the Town office: 3665 Taylor Road, Loomis, CA 95650.

CULTURAL RESOURCES

To evaluate potential conflicts between the proposed project and cultural resources, Peak & Associates, Inc., conducted an Information Center Record Search for the project vicinity to identify recorded resources in the area and contacted the Native American Heritage Commission (NAHC) and individuals identified by the NAHC to identify Native American concerns regarding the project. This research was supervised by Melinda A. Peak assisted by Robert A. Gerry.

CULTURAL SETTING

Prehistory

The project area is at the edge of the Central Valley cultural area near the transition to the foothills of the Sierra Nevada. The archeological sequences defined for the Central Valley are relevant to this area, although the material culture may be simplified in comparison with the major sites along the Sacramento River and tributaries. Some influence from the montane cultures has been identified at nearby sites in similar settings (c.f. Chavez 1983), but the general pattern of cultural succession reflects the Central Valley sequence.

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data. In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmill site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

The Windmill Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave goods; frequent presence of red ocher in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charmstones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There is a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis* sp. rather than red *Haliotis* sp. Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

Hotchkiss Culture (Late Horizon) -- The burial pattern retains the use of the flexed mode, and there is wide spread evidence of cremation, lesser use of red ocher, heavy use of baked clay, *Olivella* beads of Types E and M, extensive use of *Haliotis* ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird-bone tubes with elaborate geometric designs, clam shell disc beads, small projectile points indicative of the introduction of the bow and arrow, flanged tubular pipes of steatite and schist, and use of magnesite. (The above adapted from Moratto 1984:181-183). The characteristics noted are not all-inclusive, but cover the more important traits.

The general chronology associated with this cultural succession has been revised on several occasions and there is regional variation as well. An extensive re-examination by Ragir (1972) made use of the large number of radiocarbon dates available by that time. The beginning of Windmill (at least the mature expression--there is evidence of earlier beginnings) was dated at about 2000 B.C., much later than estimates by most earlier investigators. Ragir also found a considerable overlap between Windmill and Cosumnes. In different geographic areas, these cultures appear to have coexisted for about a thousand years. The transition to Hotchkiss is much more clearly marked, coinciding with the introduction of the bow and arrow at about A.D. 500, but even so, there is persistence of the earlier culture for another 500 years or so in some localities.

The problems of dealing with this complex chronological and geographic situation have led to revisions in the Central California Taxonomic System (the Early, Middle and Late Horizon system) in order to provide a more flexible system. The above trait lists would now be considered characteristic of the Windmill, Berkeley and Augustine Patterns, respectively, in the Cosumnes District. The concept of pattern, a general adaptive pattern that may be found over a large area and is independent of chronology, allows discussion of these trait associations without implying a linear progression or specific time span.

Ethnology

The Nisenan, or Southern Maidu, occupied the upper drainages and the adjacent ridges of the Yuba, the north, middle, and south forks of the American, and at least the upper north side of the Cosumnes River. The eastern limit of the territory is conventionally believed to extend to the crest of the Sierra. As well, the Nisenan in the valley proper occupied some area west of the lower reaches of the Feather River (Wilson and Towne 1978).

The Nisenan linguistically are grouped with the Northern Maidu and Konkow within the Penutian family (Riddell 1978:387). Kroeber distinguished three dialects within the larger territory occupied by the Nisenan, but Riddell indicated more distinctions are possible. Wilson and Towne (1978) distinguished several "centers" presumably linguistic and social groupings.

The Nisenan were socially integrated at the village or community group level (Wilson and Towne 1978), with the group participating in the decision-making process. The villages would range in size from 15 to 25 people to, at least in the Valley Nisenan, villages over 500 people (Kroeber 1925:821). A very large settlement consisted of a major village and associated smaller camps, whether general or specialized in nature. A headman, respected by all, residing in the major village had the authority to call upon the smaller associated groups in times of need, although the smaller groups did not have to always obey.

The villages for the Hill Nisenan were located on ridges and flats along the major streams and rivers within their territory. The satellite encampments and villages were probably located on the smaller water courses surrounding or nearby the major village.

The Nisenan, as with other Sierran groups, moved into the higher elevations during the hot summer months. The main activity was the collecting of pine nuts and numerous other species of nuts, roots,

and berries. This was done primarily by women and children. The foraging groups in a locale could range from small, extended family groups, composed of a woman, her immediate female kin, and their adolescent children to whole villages (Wilson and Towne 1978:389). The men spent most of their time hunting or fishing for a wide variety of fish and animals. Hunting was noted as often involving communal drives, with the best archers of the village posted to do the killing (Wilson and Towne 1978:389). Individual hunters made extensive use of decoys and imitative sounds.

Most Nisenan never left the territory used by their own village group. However, there were, in most large villages, at least some individuals who engaged in rather extensive trade with several valley groups as well as Sierra groups, such as the Washoe. The Hill Nisenan probably acquired obsidian and basketry from the east, in exchange for acorns from the Washoe but it is presently unclear whether they were visited by the Washoe or they visited the Washoe or both. Presumably, the exchange network functioned in the summer and fall.

History

The name Loomis was not used until the designation was applied to the Southern Pacific station in 1884. Previously, the place names of the area referred to small mining communities working the gravels near Secret Ravine. These communities included Placer, an area near Auburn that had a post office from October 1861 through January 1862. In 1862 the post office was moved to another town, Smithville (previously Pine Grove), in Secret Ravine, approximately six miles southwest of Newcastle (Gudde 1975: 268-325).

When the Smithville post office closed in 1869, the Postal Service reopened it in Pino, an old mining camp that formed in Secret Ravine in 1850. In 1884 the Postal Service and the railroad changed the town's name to Loomis, after Jim Loomis, the local railroad agent, apparently because the name "Pino" was often confused with Reno (Gudde 1969:182; Frickstad 1955:121).

As gold mining spread throughout the region, mining districts formed. One such district was the Rocklin District, a placer-mining district in Southwestern Placer County two miles east of Rocklin and two miles south of Loomis (Clark 1970). This district was not unusually active in the main mining era of California, but like many other mining areas saw a resurgence of small scale mining during and, to a lesser extent, after the Depression.

Although gold mining and quarrying remained important industries in Placer County, the value of the land for cultivation was recognized very early. An orchard was planted at Illinoistown as early as 1850. A variety of grains were experimented with in the valley -- including wheat, barley, oats, and hay. A number of vineyards were planted in both the valley and foothills. Orchards were extremely successful in the foothills, and the Central Pacific Railroad provided a much wider market in the east for California's agricultural products. A wide variety of fruits were raised -- including citrus, apples, peaches, pears, plums, cherries, olives, almonds, and walnuts (Thompson and West 1882:24-248; Lardner and Brock 1924:228-237).

In the project area, a patent was issued by U.S. Land Office on May 5, 1884 to Albert G. Bradshaw (Certificate No.1833). County assessor's records show Bradshaw proving up on land beginning in 1882. There is no mention of Bradshaw or his farm in local or regional histories.

INFORMATION CENTER RECORD SEARCH

A record search was conducted for the project area in January of 2015 by the North Central Information Center of the California Historical resources Information System. The record search

covered the area of all the alternatives then under consideration plus a 1/8 mile buffer zone around them. As a result, the record search covered much more land than would be affected by the preferred alternative.

Seven resources were identified by the Information as being in or near the project. Two of these are large, and partly overlapping, resources that occupy all of the project area north of Brace Road.

P-31-0123 (CA-PLA-807H) consists of the remains of the Bradshaw farm, as mentioned above, with concrete foundations, a cellar and down or nearly down sheds.

P-31-0126 (CA-PLA-810/H) is recorded in two discontinuous loci that occupy much of the project area between Brace Road and the northern project boundary. It includes the remains of a placer mining operation (sluicing) with associated badly eroded features. Most of the site features are located nearer to Secret Ravine than the area that will be affected by the preferred alternative. Three prehistoric bedrock milling stations are also incorporated into this site.

South of the above sites, the project alignment follows built roadways, Brace Road and Dias Lane, to the southern boundary of the project area. Although there have been several surveys in the vicinity, Only a small section of the preferred alternative along Dias Lane has been surveyed. The sites recorded nearby include P-31-0179 (CA-PLA-53), a bedrock milling feature east of Secret Ravine, and four resources near each other south of the project area. Two of these relate to more placer mining in the area and the other two are bedrock milling stations.

All of the current project area north of Brace Road was surveyed by Windmiller in 1995 and re-surveyed by Vallaire and Windmiller (with updates of the site records) in 2014. The one section of Dias Lane that was examined was part of a larger project surveyed by Wadsworth in 2006.

Native American Communication

Peak & Associates contacted the NAHC in December of 2014 to determine if any resources recorded in their sacred lands file were located near the project area. Their reply of December 19, 2014 indicated that no such resources were known in the area. The NAHC included a list of knowledgeable individuals who could be contacted for further information on Native American concerns. Letters were written to the following individuals requesting any information they might care to contribute regarding the project. A map was included which, like the request to the Information Center, covered a larger area than the current project area.

Organization

[individual]

United Auburn Indian Community of the Auburn Rancheria

Shingle Springs Band of Miwok Indians

[individual]

T'si-Akim Maidu

Colfax-Todds Valley Consolidated Tribe

Individual

Rose Enos

Gene Whitehouse

Marcos Guerrero

Jason Camp

Nicholas Fonseca

Daniel Fonseca

Hermo Olanio

April Wallace Moore

Eileen Moon

Grayson Coney

Don Ryburg

Pamela Cubbler

Judith Marks

Letter replies were received from Shingle Springs (Daniel Fonseca) and United Auburn (Gene Whitehouse). Both groups were unaware of specific resources in the area but did claim it as ancestral territory and asked to remain a consulting party to all further operations or decision making that could affect Native American resources. T'si-Akim Maidu (Grayson Coney) replied by telephone that once he had been shown a very large site near the southern end of the project area that had numerous artifacts on the surface. This would likely be nearer Secret Ravine than the preferred alternative is in this area or, possibly, in the Croftwood area south of the current project. He too requested continuing consultation regarding the project.

Evaluations of Significance

Both of the sites that could be impacted by the proposed project were evaluated by Ric Windmiller (M.A., RPA) and found not eligible for the National Register of Historic Places.

P-31-0123, the Bradshaw place, is associated with the fruit business in western Placer County, which is a significant economic activity, but Bradshaw is an almost unknown individual in this business. The deteriorated state of the site detracts from potential significance and artifacts observed at the site did not appear to provide any likelihood of illuminating the history of the site.

P-31-0126, the placer mining remains plus bedrock mortars is related to gold mining and, therefore, satisfies one criterion for inclusion on the register. In addition, it includes evidence of sluicing for placer gold and could satisfy another criterion in displaying the characteristics of a technology. However, it has been very heavily impacted by recent housing construction and has suffered severe erosion over the years. Windmiller felt that it did not retain sufficient integrity of design, setting and workmanship to satisfy the requirements for National Register eligibility.

We see no reason to dispute these findings.

Recommendations

There are no known significant cultural resources that will be impacted by the project. The record search and Native American communication both indicate that this is a sensitive region for cultural resources, both historic and prehistoric. Recommended mitigation measures are, therefore preventative.

CR-1 Before any construction takes place the South Placer Municipal Utility District should initiate consultation with the three Native American groups that have expressed a concern with the project. Ideally, one group could be identified as most likely descendants and further consultation would continue with that group to insure that Native American concerns are mitigated.

CR-2 When construction plans are complete, areas identified for staging area, equipment storage, spoils disposal and any other off-site impacts should be examined by a qualified archeologist/historian to identify any cultural resources that might be present.

CR-3 Trenching along Brace Road and Dias Lane should be monitored by a qualified archeologist/historian. These areas have not been surveyed and there is the potential for subsurface resources. The monitor should have the authority to halt trenching, if necessary, in order to evaluate any finds. Trenching could continue in other areas. Further actions would depend on whether or not the resource appears significant.

CR-4 Should artifacts, exotic rock (particularly obsidian), or concentrations of bone or shell be uncovered during any construction activities, an archeologist should be consulted for on-the-spot

evaluation. If the bone appears to be human, the Placer County Coroner must be contacted. If the coroner determines that the bone is most likely Native American in origin, he will contact the Native American Heritage Commission to identify most likely descendants for consultation regarding further treatment of the remains (if this has not already been accomplished..

References

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1929 Archaeology of the Northern San Joaquin Valley. *University of California Publications in American Archaeology and Ethnology* 25(4):289-413. Berkeley.
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APPENDIX 1

Information Center Results



1/15/2015

NCIC File No.: PLA-14-150

Robert A. Gerry
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

Re: Loomis Diversion Line Alternatives

The North Central Information Center received your record search request for the project area referenced above, located on the Rocklin USGS 7.5' quad. The following reflects the results of the records search for the project area and a 1/8-mile radius:

As indicated on the data request form, the locations of reports and resources are provided in the following format: ☒ custom GIS maps ☐ shapefiles ☐ hand-drawn maps

Resources within search area:	P-31-123 P-31-126 P-31-179 P-31-1006 P-31-1009 P-31-1533 P-31-1555
Reports within search area:	401 2092 3772 3909 3924 3932 3945 5980 6991 8767

Resource Database Printout (list):

☒ enclosed ☐ not requested ☐ nothing listed

Resource Database Printout (details):

☐ enclosed ☐ not requested ☒ nothing listed

Resource Digital Database Records:

☐ enclosed ☐ not requested ☒ nothing listed

Report Database Printout (list):

☒ enclosed ☐ not requested ☐ nothing listed

Report Database Printout (details):

☐ enclosed ☐ not requested ☒ nothing listed

Report Digital Database Records:

☐ enclosed ☐ not requested ☒ nothing listed

Resource Record Copies:

☒ enclosed ☐ not requested ☐ nothing listed

Report Copies:

☐ enclosed ☒ not requested ☐ nothing listed

OHP Historic Properties Directory: ☒ enclosed ☐ not requested ☐ nothing listed

Archaeological Determinations of Eligibility: ☒ enclosed ☐ not requested ☐ nothing listed

CA Inventory of Historic Resources (1976): ☐ enclosed ☒ not requested ☐ nothing listed

Caltrans Bridge Survey: ☐ enclosed ☒ not requested ☐ nothing listed

Ethnographic Information: ☐ enclosed ☒ not requested ☐ nothing listed

Historical Literature: ☐ enclosed ☒ not requested ☐ nothing listed

Historical Maps: ☐ enclosed ☒ not requested ☐ nothing listed

Local Inventories: ☐ enclosed ☒ not requested ☐ nothing listed

GLO and/or Rancho Plat Maps: ☐ enclosed ☒ not requested ☐ nothing listed

Shipwreck Inventory: ☐ enclosed ☒ not requested ☐ nothing listed

Soil Survey Maps: ☐ enclosed ☒ not requested ☐ nothing listed

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

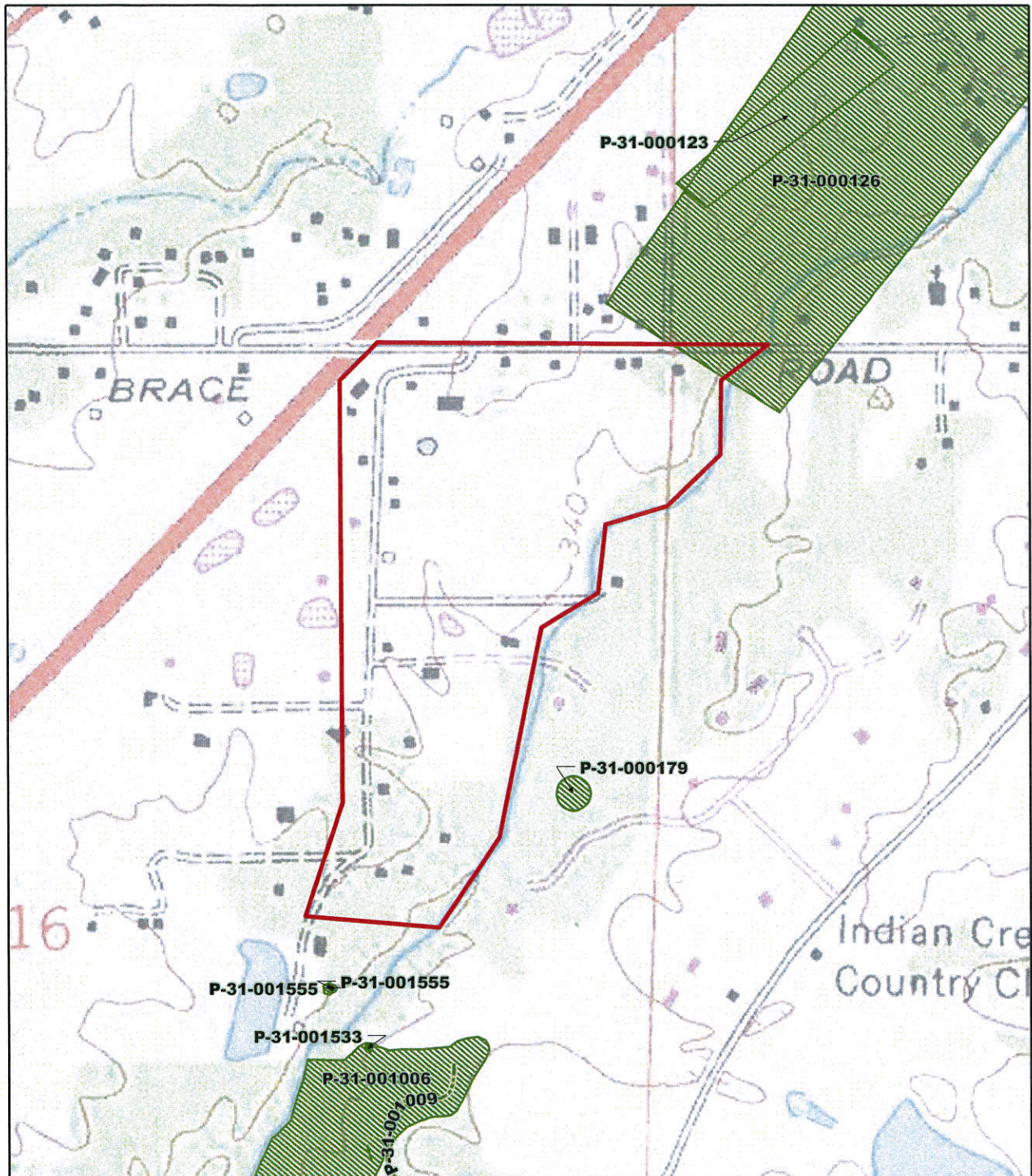
Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Sincerely,

Nathan Hallam
Coordinator, North Central Information Center

Loomis Diversion Line Alternatives



North Central Information Center
Records Search Results

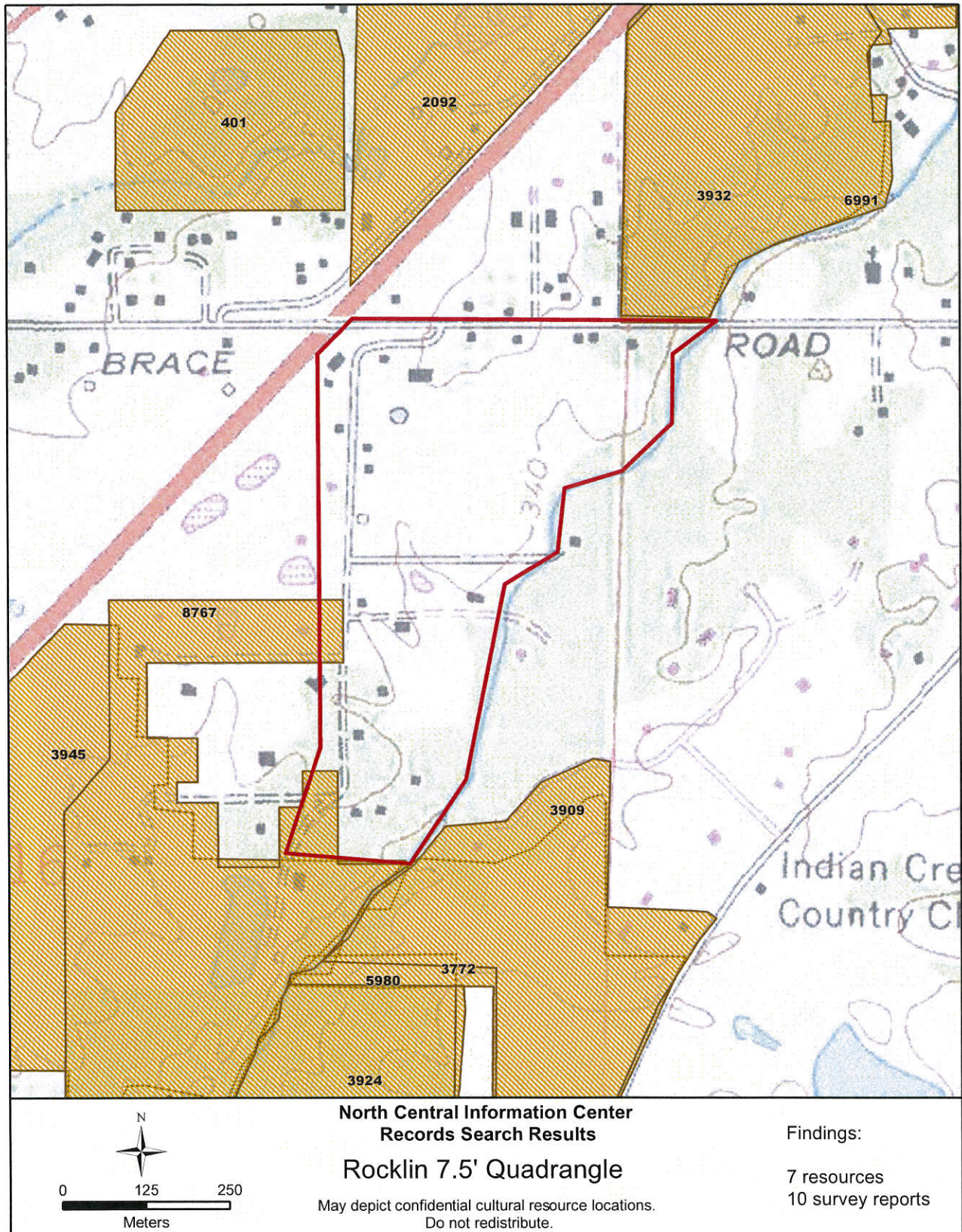
Rocklin 7.5' Quadrangle

May depict confidential cultural resource locations.
Do not redistribute.

Findings:

7 resources
10 survey reports

Loomis Diversion Line Alternatives



Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
000401		1979	Eleanor H. Derr and Michael F. Rondeau	An Intensive Archeological Survey of the Stonegate Development Project, Placer County, California.	Archaeological Study Center	31-000423
002092		1989	Alfred Farber	Archaeological Survey of the Town of Loomis Westside Specific Plan Area, Placer County, California.	Professional Archaeological Services	
003772						
003909		1990	Steve Heipel	Cultural Resources Investigation Of The Proposed Croftwood Development Project, Placer County California Final Report	PAR Environmental Services, Inc.	31-001532, 31-001533
003924		1989	Susan Lindstrom	A Cultural Resource Evaluation Of The Croftwood Project Near Rocklin, California Placer County	Consultant	31-001005, 31-001006, 31-001007, 31-001008, 31-001009, 31-001010, 31-001531
003932		1996	Ric Windmiller	Final Report On A Cultural Resources Inventory Of The Turtle Island Project Loomis, Placer County, California	Consulting Archaeologist	31-000122, 31-000123, 31-000124, 31-000125, 31-000126
003945		1989	Melinda Peak	Cultural Resource Assessment Of The Rocklin Regional Mall Project Placer County, California	Peak & Associates, Inc.	31-001520, 31-001521, 31-001554, 31-001555, 31-001556, 31-001557, 31-001558, 31-001559, 31-001560, 31-001561, 31-001562, 31-001563
005980		2004	Ric Windmiller	Croftwood, Updated Cultural Resources Study, Rocklin, Placer County, California and April 2005 Supplement	Consulting Archaeologist	31-001005, 31-001007, 31-001008, 31-002461, 31-002462, 31-002463, 31-003865
006991		2006	Jensen, Sean	Archaeological Inventory Survey Turtle Island Development Project, c. 60 acres at Loomis, Placer County, CA		
008767		2006	Sandra L. Wadsworth	Cultural Resources Assessment Rocklin 60, Placer County, California, Project 2005-090	ECORP Consulting, Inc.	31-001555, 31-001556, 31-001557, 31-001558, 31-001562, 31-001563, 31-003182

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-31-000123	CA-PLA-000807H	Other - Site 1: Historic Farm Site	Site	Historic	AH02 (Foundations/structure pads); AH03 (Landscaping/orchard); AH11 (Walls/fences)	1995 (Ric Windmiller, Unknown); 2014 (Katherine Vallaire, Ric Windmiller Consulting Archaeologist)	003932
P-31-000126	CA-PLA-000810/H	Other - Site 4: Historic Mining Landscape	Site	Prehistoric, Historic	AH04 (Privies/dumps/trash scatters); AH08 (Dams); AH09 (Mines/quarries/tailings); AP04 (Bedrock milling feature)	1995 (Ric Windmiller, Consulting Archaeologist); 2014 (Katherine Vallaire, Ric Windmiller Consulting Archaeologist)	003932
P-31-000179	CA-PLA-000053	Other - 40/4	Site	Prehistoric	AP04 (Bedrock milling feature)	1957 (D.P. Jewell, Unknown)	
P-31-001006	CA-PLA-000880/H	Resource Name - Secret Ravine Placer Mine Complex; Other - Croftwood Project Site 2: Placer Mining Complex	Site	Historic	AH06 (Water conveyance system); AH09 (Mines/quarries/tailings)	1989 (S.G. Lindstrom, Unknown); 1990 (Neal Neuenschwander, Peak and Associates, Inc.); 1998 (Susan Lindstrom, Lizzie Bennett, Consulting Archaeologist); 1999 (S.G. Lindstrom, Unknown)	003924
P-31-001009	CA-PLA-000883/H	Resource Name - Secret Ravine Placer Mine Ditch; Other - CW-LF1	Site	Prehistoric, Historic	AH06 (Water conveyance system)	1998 (Susan Lindstrom, Lizzie Bennett, Consulting Archaeologist)	003924
P-31-001533	CA-PLA-001191	Other - Croftwood #2	Other	Prehistoric	AP04 (Bedrock milling feature)	1990 (J. Dougherty, K.R. Bethard, PAR Environmental Services, Inc.)	003909
P-31-001555	CA-PLA-001213	Other - PA-88-18	Site	Prehistoric	AP04 (Bedrock milling feature)	1988 (M Peak, N Neuenschwander, Peak & Associates, Inc.); 2005 (Saundra Wadsworth, Kyle Johnson, ECORP Consulting, Inc.); 2005 (Saundra Wadsworth, Kyle Johnson, ECORP Consulting, Inc.)	003945, 008767

APPENDIX 2

Native American Communication

PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY
30 Years: 1975-2005



December 11, 2014

Ms. Debbie Pilas-Treadway
Native American Heritage Commission
915 Capitol Mall, Room 288
Sacramento, CA 95814

Dear Ms. Treadway:

Peak & Associates, Inc. has contracted with Hauge Brueck Associates to perform a cultural resources assessment for the proposed Loomis Diversion Pipeline Alternates in Placer County. The project involves several different alignments for a proposed pipeline between Secret Ravine and I80 south of Loomis. The project area lies in T11N, R7E, Sections 15 and 16 and is mapped on the Elk Grove 7.5' USGS quadrangle, which is the base for the attached map.

Because of federal grant funding, the project is a federal undertaking. In accordance with the Secretary of the Interior's Guidelines for implementing Section 106, we are requesting a list of appropriate Native American contacts for the project area. We also request a check of the Sacred Lands Inventory for any potential conflicts.

Thank you for your assistance.

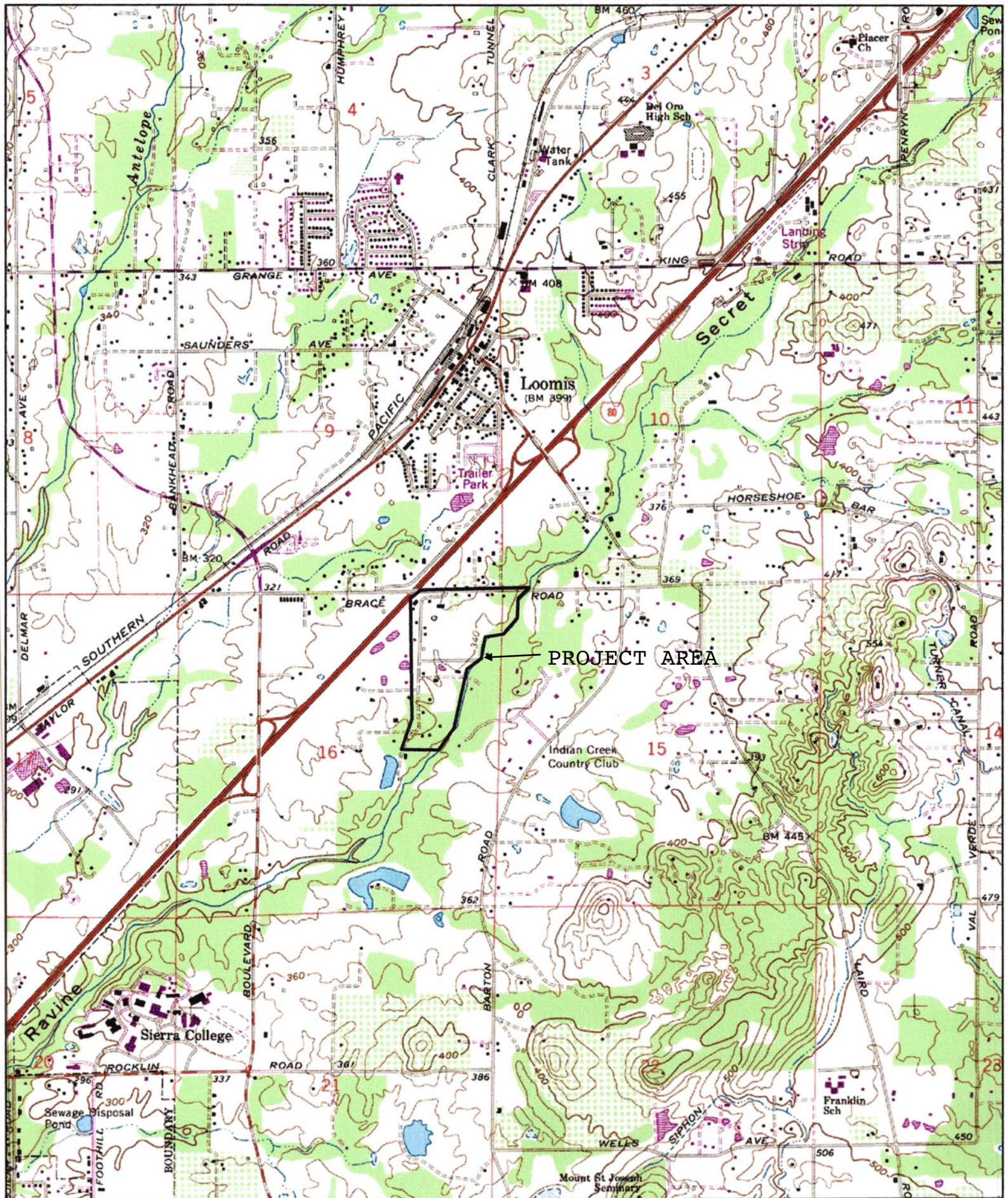
Sincerely,

A handwritten signature in black ink, appearing to read "Robert A. Gerry". The signature is fluid and cursive, with the first name "Robert" being more prominent than the last name "Gerry".

Robert A. Gerry, Consulting Archeologist
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762
(916)283-5238
FAX: (916)283-5239
peakinc@surewest.net

//RG

Encl.



Name: ROCKLIN
Date: 12/11/2014
Scale: 1 inch equals 2000 feet

Location: 10 657131 E 4297027 N
Caption: Loomis Diversion Line Alternatives
Hauge Brueck
14-044

STATE OF CALIFORNIAEdmund G. Brown, Jr. Governor**NATIVE AMERICAN HERITAGE COMMISSION**

1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471



December 19, 2014

Robert A Gerry
Peak & Associates, Inc.
3941 Park Drive, Suite 20, #329
El Dorado Hills, CA 95762

Sent By Fax: (916) 283-5239
Number of Pages: 3

Re: Loomis Diversion Pipeline Alternates, Placer County.

Dear Mr. Gerry,

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

Katy Sanchez
Associate Government Program Analyst

**Native American Contacts
Placer County
December 16, 2014**

Shingle Springs Band of Miwok Indians
Hermo Olanio, Vice Chairperson
P.O. Box 1340 Miwok
Shingle Springs, CA 95682 Maidu
holanio@ssband.org
(530) 676-8010 Office
(530) 676-8033 Fax

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340 Miwok
Shingle Springs, CA 95682 Maidu
nfonseca@ssband.org
(530) 676-8010 Office
(530) 676-8033 Fax

Rose Enos
15310 Bancroft Road Maidu
Auburn, CA 95603 Washoe
(530) 878-2378

T' si-Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 1316 Maidu
Colfax, CA 95713
akimmaidu@att.net
(530) 383-7234

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road Maidu
Auburn, CA 95603 Miwok
(530) 883-2390 Office
(530) 883-2380 Fax

United Auburn Indian Community of the Auburn Rancheria
Marcos Guerrero, Tribal Preservation Committee
10720 Indian Hill Road Maidu
Auburn, CA 95603 Miwok
mguerrero@auburnrancheria.com
(530) 883-2364 Office
(530) 883-2320 Fax

T' si-Akim Maidu
Eileen Moon, Vice Chairperson
P.O. Box 1246 Maidu
Grass Valley, CA 95945
(530) 274-7497

April Wallace Moore
19630 Placer Hills Road Nisenan - So Maidu
Colfax, CA 95713 Konkow
(530) 637-4279 Washoe

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Loomis Diversion Pipeline Alternatives, Placer County.

**Native American Contacts
Placer County
December 16, 2014**

Shingle Springs Band of Miwok Indians
Daniel Fonseca, Cultural Resource Director
P.O. Box 1340 Miwok
Shingle , CA 95682 Maidu
(530) 676-8010 Office
(530) 676-8033 Fax

T' si-Akim Maidu
Don Ryberg, Chairperson
P.O. Box 1246 Maidu
Grass Valley , CA 95945
(530) 274-7497

Colfax-Todds Valley Consolidated Tribe
Judith Marks
1068 Silverton Circle Miwok
Lincoln , Ca 95648 Maidu
(916) 580-4078

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler
P.O. Box 734 Miwok
Foresthill , Ca 95631 Maidu
(530) 320-3943
(530) 367-2093 home

United Auburn Indian Community of the Auburn Rancheria
Jason Camp, THPO
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
jcamp@auburnrancheria.com
(916) 316-3772 Cell
(530) 883-2390
(530) 888-5476 - Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Loomis Diversion Pipeline Alternatives, Placer County.



SHINGLE SPRINGS RANCHERIA
P.O. BOX 1340; SHINGLE SPRINGS, CA 95682
(530) 676-8010; FAX (530) 676-3582

January 14, 2015

Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

RE: Proposed Loomis Diversion Pipeline Alternates

Dear Robert A. Gerry

Thank you for your letter dated December 22, 2014 in regard to the Proposed Loomis Diversion Pipeline Alternates in Placer County. Based on the information provided, the Shingle Springs Band of Miwok Indians is not aware of any known cultural resources on this site. However, SSR would like to have continued consultation through updates, as the project progresses this will foster a greater communication between the Tribe and your agency.

SSR would also like to request any and all completed record searches and or surveys that were done in or around the project area up to and including environmental, archaeological and cultural reports.

If during the progress of the project new information or human remains are found we would like to be able to go over our process with you that we currently have in place to protect such important and sacred artifacts (especially near rivers and streams).

Please contact the following individuals if such finds are made:


Kara Perry, Administrative Assistant (530) 488-4049 kperry@ssband.org

And copy all communications to:

Andrew Godsey, Assistant Cultural Resource Director / NAI agodsey@ssband.org

Thank you for providing us with this notice and opportunity to comment.

Sincerely,


Daniel Fonseca
Cultural Resource Director
Tribal Historic Preservation Officer (THPO)
Most Likely Descendent (MLD)



MIWOK United Auburn Indian Community
MAIDU of the Auburn Rancheria

Gene Whitehouse
Chairman

John L. Williams
Vice Chairman

Danny Rey
Secretary

Brenda Adams
Treasurer

Calvin Moman
Council Member

January 27, 2015

Robert Gerry
Peak & Associates
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

Subject: Loomis Diversion Pipeline Alternates Cultural Resources Assessment

Dear Robert Gerry,

Thank you for requesting information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and whose service area includes El Dorado, Nevada, Placer, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

In order to ascertain whether the project could affect cultural resources that may be of importance to the UAIC, we would like to receive copies of any archaeological reports that are completed for the project. We also request copies of future environmental documents for the proposed project so that we have the opportunity to comment on potential impacts and proposed mitigation measures related to cultural resources. And, we would like the opportunity to have our tribal monitors accompany you during the field survey. The information gathered will provide us with a better understanding of the project and cultural resources on site and is invaluable for consultation purposes.

The UAIC's preservation committee would like to set up a meeting and begin consulting on the proposed project. Thank you again for taking these matters into consideration, and for involving the UAIC early in the planning process. We look forward to reviewing the documents requested above and consulting on your project. Please contact Marcos Guerrero, Cultural Resources Manager, at (530) 883-2364 or by email at mguerrero@auburnrancheria.com if you have any questions.

Sincerely,

Gene Whitehouse,
Chairman

CC: Marcos Guerrero, CRM

Telephone Communication

1/5/2015

Grayson Coney

T'si Akim Maidu

He says that the T'si Akim are close to gaining federal recognition, therefore, they are getting more active in monitoring construction projects in their traditional area.

He was shown, a few years ago, a very large site somewhere near the southern end of the area shown on our map. There were a large number of lithic artifacts on the surface. He considers the general area of Secret Ravine to be very sensitive for sites of heritage importance to him and his people and, therefore, wishes to be consulted regarding future stages of this project.

Appendix D

General Plan Consistency Table

General Plan Consistency:

Tables 1 and 2 provide an analysis of the consistency of the Project with the applicable Town of Loomis 2001 General Plan and 2012 City of Rocklin General Plan. The goals, policies, and action programs relevant to the Project are listed in each table, along with the consistency analysis related to each goal, policy, and action program. As shown in the tables, the Project is consistent with most general plan goals, policies, and action programs. In relation to cultural resources and biological resources, consistency is achieved with the implementation of mitigation measures. There are no instances where the Project is inconsistent with the General Plans and unmitigable. Goals, policies, and programs not relevant to the Project are not included in the consistency analysis.

Table 1	
Town of Loomis 2001 General Plan Consistency	
Relevant Goals, Policies, & Programs	Consistency Analysis
Chapter III – Land Use and Community Development	
Goal 1: To preserve, maintain, and enhance creeks and riparian areas for both their aesthetic and wildlife habitat values.	<u>Consistent.</u> The Project supports this goal by locating the pipeline away from Secret Ravine Creek and the associated riparian habitat.
Goal 2: To protect groundwater and surface water quality.	<u>Consistent.</u> The Project does not propose use of groundwater or surface waters, but includes best management practices in accordance with the SWPPP to protect these resources.
Goal 3: To protect oak woodlands and significant stands of native trees.	<u>Consistent with Mitigation.</u> The Project would result in the removal of protected trees as discussed in the biological resources analysis of the IS/MND. Mitigation Measure BIO-7 addresses tree protection, removal, and replacement and mitigates this impact.
Goal 4: To protect major landscape features within Loomis, including significant topography and rock outcroppings, open meadows and grazing areas.	<u>Consistent.</u> The majority of the alignment is located within existing roadways, tunnels under sensitive areas, and is located within proposed roadway. Although the alignment would cut through undeveloped land on the Turtle Island property, the pipeline would be underground and located in an area planned for development.
Policy E.1. Loomis shall maintain a balance between residential building density and the capacity of the circulation system, schools, fire and police services, and other public service facilities.	<u>Consistent.</u> The Project supports this goal by providing adequate capacity to serve existing customers as well as planned and approved development in the area. The Project addresses an existing capacity deficiency and is sized to address the surrounding developments that have been approved for development.
Policy E.2. New residential development shall be required to bear the full financial burden for new public service capital improvements required to serve the residents of the development, through impact fees, environmental mitigation fees, and other appropriate measures.	<u>Consistent.</u> New residential developments in the Project area financially support the Project.
Policy E.8. Loomis shall promote the full utilization of land already committed to urban development before utilities and public services are extended to	<u>Consistent.</u> The Project is located within the SPMUD Urban Service Boundary and serves areas identified in the General Plan for growth.

Table 1	
Town of Loomis 2001 General Plan Consistency	
Relevant Goals, Policies, & Programs	Consistency Analysis
areas without existing urban infrastructure	
Policy E.18. All new development in Loomis shall conform to the land use map, land use categories and development intensities set forth in this General Plan.	<u>Consistent.</u> Underground sanitary sewer lines are allowed in the area land use categories.
Chapter IV. Circulation	
<p>Goal LOS: To strive for service levels that reflect a balance between mobility, cost-effectiveness, and financial resources.</p> <p>LOS Policy: In order to minimize congestion, maintain Level of Service C on all roads and intersections within the Town of Loomis. Level of Service D may be allowed in conjunction with development approved within the Town as an exception to this standard, at the intersections of King and Taylor, Horseshoe Bar Road and Taylor, Horseshoe Bar Road and I-80, Sierra College and Brace Road, and Webb and Taylor, when: The deficiency will be temporary (less than three years), and a fully-funded plan is in place to provide the improvements needed to remedy the substandard condition.</p>	<u>Consistent.</u> The Project will tunnel under I-80 and Horseshoe Bar Road and will not affect LOS. Traffic controls during construction will ensure safety on Brace Road and Dias Lane and effects on LOS would be temporary (less than one year).
Chapter VI – Public Services, Facilities, and Finance	
<p>Goal 1: To achieve and maintain high levels of public services and facilities for Loomis residents, when appropriate through coordination with outside service agencies.</p> <p>Policy 1. Loomis will work toward achieving and maintaining acceptable levels of municipal services, including public safety, roadway maintenance, and administrative services. Loomis will cooperate with regional public service agencies to attain adequate service levels for water distribution, sewerage services, flood management, and solid waste collection</p>	<u>Consistent.</u> The Project proposes to maintain adequate capacity in the SPMUD sanitary sewer line serving the Loomis area. Currently, the line operates at capacity during storm events, and will exceed operating capacity with the development of approved residential and commercial projects in the service area.
Policy 2. Non-residential and higher density residential development shall not be expanded into areas lacking public services infrastructure until existing vacant land with these services within the Town limits is utilized, or proposed development ensures the extension of necessary infrastructure through actual construction or payment of fees	<u>Consistent.</u> The Project serves areas planned for development within the contiguous development area around I-80 and Horseshoe Bar Road. Developers will finance the SPMUD improvements to the sanitary sewer line.
<p>Policy 4: Proposed development shall be connected to public water supply and sewage disposal systems as follows:</p> <p>1. Any dwelling unit proposed within 300 feet of existing community water supply or sewage disposal service shall be connected to that service prior to occupancy....</p>	<u>Consistent.</u> The Project proposes to maintain adequate capacity in the SPMUD sanitary sewer line serving the Loomis area. Currently, the line operates at capacity during storm events, and will exceed operating capacity with the development of approved residential and commercial projects in the service area. Developers will finance the SPMUD

Table 1

Town of Loomis 2001 General Plan Consistency	
Relevant Goals, Policies, & Programs	Consistency Analysis
<p>2. All development proposed in nonresidential land use designations shall be connected to the community water supply and sewage....</p> <p>3. Residential subdivisions proposing parcels of 2.2 acres or less shall be connected to the community water supply and sewage....</p>	improvements to the sanitary sewer line.
Chapter VII. Conservation of Resources	
Natural Resources and Open Space	
Goal 1. To protect areas rich in wildlife of a fragile ecological nature, including areas of rare or endangered species and riparian areas, from land development impacts	<u>Consistent with Mitigation.</u> The Project has the potential to affect protected species, and wetlands and waters of the U.S. as discussed in the biological resources analysis of the IS/MND. Mitigation Measures BIO-1, 2, 3, 4, 5, and 6 mitigate potential impacts to protected species, wetlands and waters of the U.S. and wildlife nursery sites. Additional surveys shall be conducted to verify presence or absence and if needed, measures enforced to mitigate potential impacts.
Goal 2. To preserve, maintain, and enhance creeks and riparian areas for their aesthetic, wildlife habitat, and recreational values	<u>Consistent with Mitigation.</u> The Project does not propose to construct within Secrete Ravine Creek, but has the potential to affect wetlands and waters of the U.S. as discussed in the biological resources analysis of the IS/MND. Mitigation Measures BIO-5 mitigate potential impacts to wetlands and waters of the U.S. Additional surveys shall be conducted to verify the extent of impact and additional measures enforced to mitigate potential impacts.
Goal 3. To help protect groundwater and air quality within the Sacramento region	<u>Consistent.</u> The Project will not use groundwater or emit air pollutants during operation. Construction will temporarily emit air pollutants; however, the emission levels would not exceed thresholds and the Project includes construction measures to reduce emissions during construction.
Goal 4. To protect major open space areas and natural features within the Town, including significant topography and rock outcroppings, oak woodlands and significant specimens of native trees	<u>Consistent.</u> The majority of the alignment will be located within existing roadway pavement or ROW and will be located below ground. There are no significant topographical features in the area, and oak woodlands and other significant trees will be avoided where feasible. Some tree removal will occur on a case by case basis where the individual tree cannot be avoided. The affected areas are planned for future development.
<p>Policy 1. Loomis will contribute toward the attainment of State and Federal air quality standards in the Sacramento Valley Air Basin through the following, and other feasible measures.</p> <p>a. Site preparation and development activities shall incorporate effective measures to minimize dust emissions and the emissions of pollutants by motorized construction equipment and vehicles.</p> <p>b. During the review of development plans, the</p>	<u>Consistent.</u> The Project will not emit air pollutants during operation. Construction will temporarily emit air pollutants; however, the emission levels would not exceed thresholds and the Project includes construction measures to reduce emissions during construction.

Table 1**Town of Loomis 2001 General Plan Consistency**

Relevant Goals, Policies, & Programs	Consistency Analysis
Town should require that project proponents conduct their own air quality analysis to determine air quality impacts and potential mitigation measures.	
Policy 2. Prior to approval of discretionary development permits involving parcels near significant ecological resource areas, the Town shall require, as part of the environmental review process, a biotic resources evaluation by a qualified biologist. The biologist shall follow accepted protocols for surveys (if needed) and subsequent procedures that may be necessary to complete the evaluation.	<u>Consistent.</u> Biological resource and wetland surveys have been conducted for the project area.
Policy 3. The Town shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian areas.	<u>Consistent.</u> The Project includes project measures that address erosion control, runoff, and sedimentation. A SWPPP with BMPs and temporary construction control measures will be prepared and implemented as part of the construction phase of the Project. See Regulatory Compliance Measure 2.6.4 Stormwater Pollution Prevention Plan.
Policy 5. Individual heritage trees and significant stands of heritage trees shall be preserved. Healthy heritage trees shall be removed or significantly trimmed only when necessary because of safety concerns, conflicts with utility lines and other infrastructure, the need for thinning to maintain a healthy stand of trees, or where there is no feasible alternative to removal. Proposed development shall be designed, constructed, and maintained to preserve individual heritage trees and significant stands of heritage trees, and provide for the protection of root zones and the continuing health of the trees. When trees are removed, they shall be replaced in sufficient numbers to maintain the volume of the Town's overall tree canopy over a 20-year period. Tree removal within stream corridors is also subject to the above policy on stream corridor protection	<u>Consistent with Mitigation.</u> The Project would result in the removal of protected trees as discussed in the biological resources analysis of the IS/MND. Mitigation Measure BIO-7 addresses tree protection, removal, and replacement and mitigates this impact.
Policy 6. The streams of Loomis are among the most significant and valuable of the Town's natural resources. Development adjacent to streams shall be designed, constructed, and maintained to avoid adverse impacts on riparian vegetation, stream bank stability, and stream water quality to the maximum extent feasible. These policies shall apply to all watercourses shown as blue lines on the most recent United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps applicable to the Town.	<u>Consistent with Mitigation.</u> The Project would not be located adjacent to streams or Secret Ravine Creek. Although nearby, the Project would not affect these resources and would be sufficiently distant so as not to affect stream banks. The General Plan states that public utilities are not subject to the 100-foot riparian vegetation setback. No staging or spoil disposal would occur within riparian areas. The affected wetland and riparian habitat would be mitigated through Mitigation Measure BIO-5.
Policy 7. The Town will contribute toward the maintenance of high quality in the local surface and groundwater resources through the following, and	<u>Consistent.</u> The Project includes project measures that address erosion control, runoff, and sedimentation. A SWPPP with BMPs and

Table 1**Town of Loomis 2001 General Plan Consistency**

Relevant Goals, Policies, & Programs	Consistency Analysis
other feasible measures	temporary construction control measures will be prepared and implemented as part of the construction phase of the Project. See Regulatory Compliance Measure 2.6.4 Stormwater Pollution Prevention Plan. The Project does not propose to use or discharge to surface or groundwaters. Operation would not affect runoff or discharge to surface waters.
<p>Policy 8. The following policies apply to properties with wetland areas:</p> <p>a. The environmental review of development on sites with wetlands shall include a wetlands delineation, and the formulation of appropriate mitigation measures. The Town shall support the “no net loss” policy....</p> <p>b. The Town shall require new development to mitigate wetland loss...to achieve “no net loss” through any combination of the following, in descending order of desirability:</p> <ol style="list-style-type: none"> 1. Avoidance of riparian habitat; 2. Where avoidance is not feasible, minimization of impacts; 3. Compensation, including use of a mitigation banking program...that are encouraged to be located within the Town; or 4. Replacement of a degraded or destroyed wetland at a ratio of from 1:1 to 4:1.... <p>c. The Town will require project-by-project review of sites where vernal pools exist....</p> <p>d. The Town will require the preservation of native riparian and wetland areas as open space to the maximum extent feasible....</p>	<p><u>Consistent with Mitigation.</u> Biological resource and wetland surveys have been conducted for the project area. The Project has been designed to avoid wetland features where feasible. The affected wetland areas would be mitigated through implementation of Mitigation Measure BIO-5.</p>
Policy 9. Loomis will work cooperatively with state, regional, and local agencies in protecting natural resources.	<p><u>Consistent.</u> The Project will be reviewed by federal, state, and local agencies with jurisdiction over natural resources. Necessary permits and approvals will be obtained prior to construction as described in the Project Description.</p>
Cultural Resources	
Goal 1. To preserve and where appropriate replicate historic areas, such as the Downtown district and fruit sheds, that contribute to Loomis’ distinct character.	<p><u>Consistent.</u> The record search identified resources within the project; however these resources have been found ineligible for the National Register of Historic Places.</p>
Policy 5. As part of the environmental review process, the Town shall review all development proposals for their potential to disturb cultural resources. In areas where cultural resources are known to occur, give special consideration to development of facilities that enhance the operation, enjoyment, and maintenance of these areas	<p><u>Consistent with Mitigation.</u> The Cultural Resources evaluation conducted for the project revealed no resources listed or eligible for listing under the National Register of Historic Places. Because the area is a sensitive region for historic and prehistoric cultural resources, preventative measures are proposed for the project to ensure resources are protected. These measures include a pre-construction Native American consultation, staging</p>

Table 1	
Town of Loomis 2001 General Plan Consistency	
Relevant Goals, Policies, & Programs	Consistency Analysis
	area, storage, and spoil disposal site review, and trench monitoring during the construction phase of the Project.
Chapter VIII. Public Health and Safety	
Safety	
Goal 1. To reduce risks associated with natural and man-made hazards through compliance with State and Federal safety programs	<u>Consistent.</u> The Project would not generate hazards. Wastewater would be delivered to the existing treatment facility.
Goal 2. To reduce the risks associated with wildland and urban edge fires in the Town's rural areas	<u>Consistent.</u> Operation of the Project would not result in a fire hazard. Construction methods include spark arrestors and fire extinguishers on construction machinery and equipment.
Goal 3. To reduce the potential for and damage resulting from storm flooding hazards within the community	<u>Consistent.</u> The Project would not contribute to flood hazards. Construction near the 100-year flood zone would be conducted through tunneling. The Project would not impede or redirect flood flows.
Goal 4. To reduce the risks associated with potential seismic activity, including groundshaking, liquefaction, and landslides	<u>Consistent.</u> The Project would not induce seismic activity, and includes no habitable structures that would place persons or property at risk during seismic events. Soils are not prone to liquefaction and there is no landslide risk in the project area. The pipeline is designed and engineered to ensure the line does not fail during a seismic event.
Policy 2. Engineering analysis of new development proposals shall be required in areas with possible soil instability, flooding, earthquake faults, or other hazards, and prohibit development in high danger areas.	<u>Consistent.</u> The pipeline is designed and engineered to ensure the line does not fail due to soil instability or other hazard. The Project is an underground pipeline and would not utilize hazardous materials during operation.
Policy 4. No new structures or additions to existing structures shall be permitted in areas identified by the federal Flood Insurance Rate Maps (FIRMs) or the Town Engineer as being subject to inundation in a 100-year or more frequent flood event. Exceptions may be granted for public facilities and utilities.	<u>Consistent.</u> The Project would not contribute to flood hazards. Construction near the 100-year flood zone around I-80 and Horseshoe Bar Road would be conducted through tunneling. The Project would not impede or redirect flood flows. Development within Dias Lane and Brace Road would not affect flows as the pipeline would be located underground beneath existing roadway pavement with no change in the roadway grade or slope. The roadways would be restored to match existing grade and slope following installation of the pipeline and filling of the trench.
Policy 8. Loomis shall cooperate with Federal, State, and local authorities to ensure that loss due to seismic activity and other natural and man-made disasters is minimized.	<u>Consistent.</u> Federal, state, and local regulatory agencies will review the proposed project documentation and their concerns integrated into the Project. Necessary permits will be acquired prior to construction as discussed in the Project Description.
Noise	
Goal 1. To protect Town residents and workers from the harmful and annoying effects of noise	<u>Consistent.</u> Project operations will not generate noise. Project construction activities will be limited to between the hours of 7:00 am and 7:00 pm

Table 1	
Town of Loomis 2001 General Plan Consistency	
Relevant Goals, Policies, & Programs	Consistency Analysis
<p>Policy 4. Individual noise exposure analysis shall be required for proposed development projects as part of the environmental review process, to ensure that the Town's noise standards are met. The use of mitigation measures (noise buffers, sound insulation) may be required to reduce noise impacts to acceptable levels</p> <p>Policy 18. Require that the hours of truck deliveries to industrial and commercial properties adjacent to residential uses be limited to daytime hours unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at night</p> <p>Policy 19. Require that construction activities adjacent to residential units be limited as necessary to prevent adverse noise impacts</p>	<p>Monday through Friday in accordance with Municipal Code Section 13.30.070 (Project Measure 2.6.2) and shrouding or shielding of impact tools and muffling or shielding intake and exhaust ports on construction equipment will be implemented to reduce construction noise levels.</p>

Table 2	
City of Rocklin 2012 General Plan Consistency	
Relevant Goals, Policies, & Programs	Consistency Analysis
Chapter IV.B – Open Space, Conservation and Recreation Element	
Policy OCR-8. Encourage public utility companies and agencies to consult with the City prior to undertaking projects that may affect open space and natural resource areas to minimize impacts to these areas.	<u>Consistent.</u> The Project is proposed in response to existing capacity limitations and proposed and approved developments in the area that will require additional sanitary sewer capacity. The Project is developed in response to those existing needs.
Goal. Conserve and protect natural resources while permitting their managed use, consistent with City, State and Federal requirements	<u>Consistent.</u> Within the City of Rocklin, the Project would be limited to the ROW and area adjacent to the Dias Lane ROW. As discussed in the Project Description, the Project will be reviewed by the regulatory agencies and necessary permits or mitigation will be obtained prior to construction.
Policy OCR-39. Require the protection of wetlands, vernal pools, and rare, threatened and endangered species of both plants and animals through either avoidance of these resources, or implementation of appropriate mitigation measures where avoidance is not feasible, as determined by the City of Rocklin.	<u>Consistent with Mitigation.</u> The Project has the potential to affect protected species, and wetlands and waters of the U.S. as discussed in the biological resources analysis of the IS/MND. Mitigation Measures BIO-1, 2, 3, 4, 5, and 6 mitigate potential impacts to protected species, wetlands and waters of the U.S. and wildlife nursery sites. Additional surveys shall be conducted to verify presence or absence and if needed, measures enforced to mitigate potential impacts.
Policy OCR-40. Require compliance with the State and Federal Endangered Species Acts and the Clean Water Act as conditions of development project approval.	<u>Consistent.</u> As discussed in Section 2.7 of the Project Description, the Project will be reviewed by the appropriate regulatory agencies and the necessary permits and approvals will be acquired

Table 2**City of Rocklin 2012 General Plan Consistency**

Relevant Goals, Policies, & Programs	Consistency Analysis
	and implemented prior to Project construction.
Policy OCR-41. Recognize that onsite protection of natural resources may not always be feasible and that offsite methods, such as use of mitigation banks, may be used.	<u>Consistent.</u> Biological resource and wetland surveys have been conducted for the project area. The Project has been designed to avoid wetland features where feasible. The affected wetland areas would be mitigated through implementation of Mitigation Measure BIO-5.
Policy OCR-42. Encourage projects to be designed in a manner that protects heritage oak trees and other botanically unique vegetation designated to be retained. Policy OCR-43. Mitigate for removal of oak trees and impacts to oak woodlands in accordance with the City of Rocklin's Oak Tree Preservation Ordinance, or for projects located in zones not directly addressed by the Oak Tree Preservation Ordinance mitigation measures, on a project-by-project basis through the planning review and entitlement process.	<u>Consistent with Mitigation.</u> The Project would result in the removal of protected trees as discussed in the biological resources analysis of the IS/MND. Mitigation Measure BIO-7 addresses tree protection, removal, and replacement and mitigates this impact.
Policy OCR-49. Minimize the degradation of water quality through use of erosion control plans and Best Management Practices. Policy OCR-50. Maintain a grading ordinance that minimizes erosion and siltation of creeks and other watercourses.	<u>Consistent.</u> The Project includes project measures that address erosion control, runoff, and sedimentation. A SWPPP with BMPs and temporary construction control measures will be prepared and implemented as part of the construction phase of the Project. See Regulatory Compliance Measure 2.6.4 Stormwater Pollution Prevention Plan. The Project does not propose to use or discharge to surface or groundwaters. Operation would not affect runoff or discharge to surface waters. The Project would not discharge into creeks or watercourses in Rocklin.
Policy OCR-55. Consider the visual qualities of development projects and project compatibility with surrounding areas, especially when projects are proposed in urbanizing areas abutting rural or semi-rural areas where significant natural resource values exist.	<u>Consistent.</u> The Project proposes an underground sanitary sewer pipeline needed to address existing capacity issues as well as proposed and approved developments within the area. Construction of the pipeline within and around Dias Lane would not result in substantial visual change in the area as most of the alignment would be beneath existing pavement. The only visible changes would result from the manholes located in the roadway that would serve the pipeline.
Policy OCR-58. Require development projects to incorporate stationary and mobile source control measures recommended by the Placer County Air Pollution Control District and approved by the City for protection of air quality during construction and subsequent operations.	<u>Consistent.</u> The Project will not emit air pollutants during operation. Construction will temporarily emit air pollutants; however, the emission levels would not exceed thresholds and the Project includes construction measures to reduce emissions during construction. See Regulatory Compliance Measure 2.6.1 which includes measures to comply with PCAPCD Fugitive Dust Control directives.
Goal. Conserve and protect unique community	<u>Consistent with Mitigation.</u> The Cultural Resources

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Relevant Goals, Policies, & Programs	Consistency Analysis
<p>features such as geologic, historic and culturally significant sites</p> <p>Policy OCR-62. Preserve historically significant resources in place if feasible, or provide mitigation prior to further disturbance.</p> <p>Policy OCR-65. Preserve significant archaeological resources (including Native American remains) and paleontological resources in place if feasible, or provide mitigation prior to further disturbance.</p>	<p>evaluation conducted for the project revealed no resources listed or eligible for listing under the National Register of Historic Places. Because the area is a sensitive region for historic and prehistoric cultural resources, preventative measures are proposed for the project to ensure resources are protected. These measures include a pre-construction Native American consultation, staging area, storage, and spoil disposal site review, and trench monitoring during the construction phase of the Project.</p>
Chapter IV.C – Circulation Element	
<p>Policy C-17. Keep truck traffic away from residential areas and streets not structurally designed for truck traffic by designating truck routes.</p> <p>Policy C-19. Maintain existing streets in a safe condition and require that new streets be built to City standards.</p>	<p><u>Consistent.</u> Project construction will include some traffic along Dias Lane. Traffic controls during construction will ensure safety on Dias Lane and effects on LOS would be temporary (less than one year). Following installation and coverage of the pipeline Dias Lane would be repaved and restored.</p>
Chapter IV.D – Community Safety Element	
<p>Goal. To minimize danger from hazards and to protect residents and visitors from earthquake, fire, flood, other natural disasters, and human-created hazards such as train derailment, industrial accidents, acts of war or terrorism, and accidental release of harmful materials</p> <p>Policy S-1. Require engineering analysis of new development proposals in areas with possible soil instability, flooding, earthquake faults, or other hazards, and to prohibit development that cannot mitigate the applicable hazard</p>	<p><u>Consistent.</u> The Project would not induce seismic activity, and includes no habitable structures. Soils are not prone to liquefaction and there is no landslide risk in the project area. The Project would not impede or redirect flood flows. Development within Dias Lane would not affect flows as the pipeline would be located underground beneath existing roadway pavement with no change in the roadway grade or slope. The roadways would be restored to match existing grade and slope following installation of the pipeline and filling of the trench. The Project would not contribute to flood flows as the only new impervious surface would be the proposed manholes. The pipeline is designed and engineered to ensure the line does not fail during a seismic event or other natural disaster.</p>
<p>Policy S-9. Ensure that the 100-year floodplain, based upon the most current information, both upstream and downstream, is not adversely affected by new development.</p> <p>Policy S-10. Require that new development detain on-site drainage such that the rate of runoff flow is maintained at pre-development levels, except where detention is not recommended in plans and policies adopted by the PCFCWCD, and to require coordination with other projects' master plans to ensure no adverse cumulative effects. In lieu of detention, the City may require retention and/or off-site drainage improvements that are more beneficial</p>	<p><u>Consistent.</u> The Project proposes an underground pipeline, portions of which would be below existing paved ROW. Those portions outside existing paved ROW would not increase impervious coverage other than new manholes and the existing drainage patterns and rates would persist following construction.</p>

Table 2	
City of Rocklin 2012 General Plan Consistency	
Relevant Goals, Policies, & Programs	Consistency Analysis
to the community's overall drainage system.	
Policy S-11. Ensure that new development does not result in on-site flooding or increase flooding of off-site properties.	
Policy S-14. Require that construction activities cease if contamination is discovered on construction projects until the contamination is reported, and its extent is assessed, delineated, and isolated, as appropriate. Remediation shall occur to the satisfaction of the appropriate responsible agency....	<u>Consistent.</u> There are no listed sites within the project area and no historical uses that suggest contamination may be present.
Chapter IV. E – Noise Element	
Goal 1. To protect City residents from the harmful and annoying effects of exposure to excessive noise	<u>Consistent.</u> Project construction activities will be limited to between the hours of 7:00 am and 7:00 pm Monday through Friday, and shrouding or shielding of impact tools and muffling or shielding intake and exhaust ports on construction equipment will be implemented to reduce construction noise levels.
Chapter IV F – Public Services and Facilities Element	
Goal. To provide high quality public facilities and a full range of public services to all areas and residents of the City, and to ensure that new development does not cause the inefficient use of such facilities and services.	<u>Consistent.</u> The Project proposes to maintain adequate capacity in the SPMUD sanitary sewer line serving the Loomis/Rocklin area. Currently, the line operates at capacity during storm events, and will exceed operating capacity with the development of approved residential projects in the service area. The project would be installed in conjunction with proposed residential development and prior to residential occupancy. Developers will finance the SPMUD improvements to the sanitary sewer line.
Policy PF-1. Provide for adequate lead time in the planning of needed expansions of public services and facilities.	
Policy PF-3. Require that any development that generates the need for public services and facilities, including equipment, pay its proportional share of providing those services and facilities....	
Policy PF-5. Require that construction of private development projects be coordinated with the construction of public facilities and services that are needed to serve the project.	
Policy PF-11. Ensure that new development will not create a significant negative impact on the existing level of police and fire protection services.	<u>Consistent.</u> Construction and operation of the pipeline would not increase demand for police or fire protection services.
Policy PF-38. Coordinate roadway maintenance and construction projects with utility companies and private developers to minimize pavement cuts in new or resurfaced streets.	<u>Consistent.</u> Following installation and coverage of the pipeline, Dias Lane would be repaved and restored.